Debate & Dialogue:
The Essentials of Argumentation

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The Essentials of Argumentation

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Printed in the United States of America
First Create Space Edition 2013

ISBN-13: 978-1478392194
ISBN-10: 1478392193

For Sophia

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Preface

This is a brief introduction to argumentation. There are many interesting and valuable texts that run into hundreds of pages explaining every facet of argument, reasoning, evidence, and much more. This text is short, and it was intended to be that way. Argumentation is not so much a theoretical subject, but a skill, a technique, or an art. Obviously, the more a person knows about argumentation theory, the greater the chances that that person will be a good debater. However, theoretical concepts are only as good as one's ability to put them into practice. And this can be accomplished only by doing. That how it is in real life, and that how it should be in a classroom. Although a great deal can be taught by examining various theories on the subject, much more can be accomplished by practice. This is similar to such endeavors as writing, thinking, or acting. For example, it is very easy to explain the concept of test of evidence. The entire lecture on the subject can be presented in no more than one hour, and it is certain that careful listeners will easily understand and remember the principles. But only constant search for evidence brings mastery to the subject.

Further, the emphasis is not just on any 'doing' but on debate, where arguments are always exposed to criticism and challenges. Many students and even many teachers avoid the competitive character of argumentation, but competition for the truth or the best solution is inherent in the debate process, and avoiding it means abandoning argumentation and debate. An argument is not only advocacy of certain position, but it is also a part of dialogue, a collaborative process of finding the best answers to the most difficult questions.

Also, it is my belief that learning and exercising argumentative skill can be done best when working on matters related to decision- and policy-making. Thus, although the book covers many aspects of argumentation, the focus here is on developing practical solutions to practical problems. Of course, what is practical is not necessarily easy and often involves serious philosophical, moral, and ideological values. Still, it is my intention to show that argumentation is a very practical skill that can be applied as much to a debate on aesthetics of modern art as to a debate on an engineering project. Further, since arguments are about real life matters, they are challenging because participants in a debate often must become experts on subjects that are different and sometimes very far from their area of education, employment, or expertise. Attorneys are, obviously, experts in law and the legal procedures, but often, depending on the case, they must learn at least some principles of, say, genetics, psychology, or electrical engineering. Top architects often must argue the benefits of their projects not only in terms of the utility of the design, but in terms of culture, history, language, and local climate. Arguing the question of driver's license for illegal immigrants requires excellent orientation in the immigration laws, the economic, social and political context of illegal immigration, and even some knowledge of the vehicle code and insurance matters. Persons arguing abortion must learn a great deal about biology, sociology, politics, and perhaps even theology. All this simply cannot be learned from an argumentation or critical thinking textbook.

This book, or any other book on argumentation, debate, or critical thinking, is just a small step in learning better arguments, better debates, and better thinking. Perhaps in addition to the practical goals of helping one become more effective thinker and debater, the book will also encourage many to embark on more frequent voyages into the world of ideas.

1

From Persuasion to Argumentation

Not a moment passes without someone trying to persuade us about something. Roadside billboards scream with the advantages of switching from one bank (or beer, or car, or shampoo) to another. The name of a margarine brand wants us to exclaim: "I can't believe it's not butter!" Bosses want to convince workers to work harder, and workers argue that that is not likely without a raise. When the American presidential election of 2012 concludes, the candidates and their supporters will spend close to $3 billion to persuade us to vote for them. On the radio one economist tries to convince the audience that a tax cut will make the economy grow, while another tells the listeners that a tax cut will not accomplish such a thing, and a driver of the car in front of us has a bumper sticker assuring everyone that, in any case, "Don't worry. Be Happy!"

You, too, are not far behind. Maybe you are the one with the bumper sticker, or you are an economist, politician, or marketing specialist. Perhaps your company designed one of these advertisements that you see on billboards or on television. Or, you are an engineer arguing that your project is better than all the others. Even if you are a quiet and very private person not involved in business, politics, or marketing, you are surely persuading someone about some other matters that are important to you. Sometimes you even try to persuade yourself to make an appointment with a dentist, apply for that new job, or exercise.

Although these opening paragraphs do not say anything especially new, the point is that often we don't realize how ever-present persuasion is. In fact, just as Monsieur Jourdain from Moliere's comedy *The Would-Be Gentleman* was astonished at the discovery that he has been speaking prose his whole life, we also tend not to think that we are constantly persuading others or that we are targets of persuasion. The word *persuasion* means convincing, changing one's mind, inducing. Its Latin and Greek origins suggest also: enticing, impressing, seducing, even tempting. In one formal definition, persuasion is "a conscious attempt by one individual to change the attitudes, beliefs, or behavior of another individual or group of individuals through the transmission of some message" (Bettinghaus & Cody 1987, 3).

The fact that persuasion is everywhere is not especially revealing. Much more important question is: How do we change minds? How others change our mind? Very few of us really spend any time analyzing what exactly is it that makes us accept one position and reject another. Of course we would like to believe that most of the time our decisions are based on a conscious and rational choice. Only sometimes we admit that we were moved by love, fear, passion, pity, maybe respect and liking, or hate and abhorrence. In these basic explanations we are not necessarily wrong, except that the rational part of persuasion is usually much smaller than we think. Daniel Kahneman explains our decision making as guided by one of two systems: System 1 and System 2 (2011). Each guides our thoughts and actions differently. System 1 is the "automatic pilot," running constantly and responding quickly to all challenges. 'Quickly' means that there is very little time for reflection and no time for evaluation of reasons or evidence. System 1 bases responses on feelings, first impressions, but also on ideas verified earlier and endorsed by system 2. System 2 is much slower and responds to special needs and challenges. It requires conscious effort and full attention. It is based on systematic and logical thinking. In studying argumentation and critical thinking, we will emphasize System 2. Any decision or argument based on systematic and logical thinking is more reliable than one based on passion or prejudice. But before we get there, we have to recognize how powerful is System 1, the one we would wish to be less important.

Modern psychology has a whole gamut of theories explaining persuasive communication within System 1, among them powerful theories of cognitive dissonance, psychological reactance, emotional appeals, or credibility appeals. For example, the reactance theory suggests that a person wants to make decisions free from interferences of others and often rejects a course of action favorable to him only because that option was forced upon him. In the book (and later a film) *In the Heat of the Night*, Chief Gillespie just waits for an opportunity to get rid of a black detective, Virgil Tibbs, but when he receives an anonymous threat "to kick Tibbs out of town or else," Gillespie changes his mind: "He had been ordered to get rid of Tibbs. Simply because of that, he resolved to keep him around as long as it pleased him to do so" (Ball 1985, 102). And vice versa, when something is prohibited to us, we feel the need to do it just to assert our freedom. In everyday language that theory is often known as "reverse psychology." As one book explains:

> By trying to make something 'unavailable' through censorship, the perceived value of the forbidden item may increase. For example, *The Satanic Verses* was an interesting novel by Salman Rushdie, but it certainly was not blockbuster material. It might have sold several thousand copies except for one thing: The Ayatollah Khomeini declared it was sacrilegious and urged Muslims to assassinate the author. The book immediately rocketed to the top of the best-seller list (Pratkanis & Aronson 1992, 194).

One doesn't have to study psychology to have an instinctive understanding of "reverse psychology;" at one time or another all of us have tried to use it in an attempt to persuade someone. The same could be said about appeals to beauty, attractiveness, and sex. We may deny that we are being persuaded by these "skin deep" characteristics, but the size of the "beauty business," the billions of dollars spent on cosmetics and cosmetic surgeries, tells us something different. Again, most people don't read psychological treatises on the subject, but they know from their own experiences that there is more to attractiveness and beauty than… attractiveness and beauty. Most times we are quick to conclude that everything else about a person must be consistent with these external qualities. This is known as *halo effect*. We often associate physical attractiveness with expertise, intelligence, and honesty. Of course, that is often just a perception. In most cases, physical attractiveness does not have anything to do with that person's ability to present a cogent and compelling argument. Yet, many in the audience will be persuaded by one's looks more than by logical arguments. As one psychologist says, that scares him. He writes:

> In one study, good grooming of applicants in a simulated employment interview accounted for more favorable hiring decisions than did job qualifications—this, even though the interviewers claimed that appearance played a small role in their choices… Equally unsettling research indicates that our judicial process is similarly susceptible to the influence of body dimensions and bone structure… For example, in a Pennsylvania study researchers rated the physical attractiveness of 74 separate male defendants at the start of their criminal trials. When, much

> later, the researchers checked court records for the results of these cases, they found that the handsome men had received significantly lighter sentences. In fact, attractive defendants were twice as likely to avoid jail as unattractive defendants (Cialdini 1993, 141).

Then, there are emotional appeals. They are used everywhere: in very private communication between friends and in political speeches appealing to millions of people. It has been verified by many studies that people respond positively to politicians' talk about "trust, hope, and local and national pride." (Kern 1989, 74). Often there is very little behind political slogans, but they do work. After terrorist attacks on September 11, 2001, politicians outdid one another in claiming patriotism. Certainly, much of it was genuine, but perhaps even more was for rather pragmatic reason: popularity, votes and political support. Marketing and advertisement are two other large areas frequently using emotional and motivational appeals. Ads for sport utility vehicles appeal to our sense of adventure, to the dream of crossing wild rivers and dark jungles, even though 99% of SUV owners will never leave the pavement. One trade college in Los Angeles area even appeals to one's impatience with hard work when they show in an ad how arduous college education is and conclude: Why go to four-year college if you could get a trade degree in six months and begin working immediately? And Victoria's Secret appeals to… Well, you know that appeal. These methods can be very successful. No wonder business spends annually more than $100 billion to promote its products. Proctor & Gamble is the biggest spender with the annual advertisement budget of about $4.6 billion. AT&T spends more than $3 billion, Toyota about $2 billion, and McDonald's $1.6 billion.

For these reasons persuasion often is seen as mindless influence, removed from reason. Today, the classic name of the art of persuasion, rhetoric, is associated mostly with emotional, often outright dishonest communication. We say "it is just rhetoric" to indicate an attempt to persuade someone without any regard for the truth. Of course, that tension between influence and search for truth is not new. French philosopher Descartes, writing at the end of the 17th Century thought rhetoric useless in discovering the truth of things (Conley 1990, 165). One of the earliest critics of persuasion as "mindless influence" was the Athenian philosopher Plato (428-347 B.C.E). He believed that ultimately such persuasion does not have much value. It is "a maker of conviction…." [It] "produces conviction about right and wrong which is a matter of persuasion and belief, not the result of teaching and learning." (2004, 12-16). It is "a mere 'knack' of humouring the prejudices of an audience." (Armstrong & Blumenthal 1987, 883). One can be persuaded to do things that have no value or are even harmful to that person. And there is never any assurance of truth and accuracy.

Plato's answer to this problem was to turn to something that can assure objectivity of conclusions: reason. He wrote that human "soul" consists of three parts: appetitive, spirited, and rational. The first refers to a person's instinct, desire for food and sex. The spirited part is person's character: the will, dignity, honesty, and bravery. The rational part is, of course, person's ability to reason. Plato's famous pupil Aristotle followed that theory of human soul by dividing means of persuasion into three groups: ***pathos***, ***ethos***, and ***logos***. Referring to appetitive part of the soul, he wrote that "persuasion is effected through the audience, when they are brought by the speech into a state of emotion; for we give very different decisions under the sway of pain or joy, and liking or hatred." (Cooper 1960, 9). He named this means of persuasion *pathos*. Writing about the *ethos*, Aristotle stated: "The character of the speaker is a cause of persuasion when the speech is so uttered as to make him worthy of belief; for, as a rule we trust men of probity more, and more quickly, about things in general, while on points outside the realm of exact knowledge, where opinion is divided, we trust them absolutely." (Cooper 1960, 8). Finally, there is the "argument proper," a person's ability to reason, the appeal to the rational part of humans. Aristotle called that part *logos*. Kahneman calls it simply System 2. For Aristotle that part of persuasion that is based on reasoning and logical proofs is argumentation. From that point we can get right to the definition of argumentation.

Definitions: Argument, Argumentation, and Debate

An argument is a form of a persuasive discourse in which a claim is advanced and supported with evidence through the process of reasoning. It is said that the claim follows from the supporting evidence. Here is a simple example "You should vote for Councilwoman Norris for mayor because she is an experienced and smart politician." The **claim** is "You should vote for Councilwoman Norris for mayor." The **supporting evidence** is: "she is experienced and smart politician." The **reasoning** is as follows: It is assumed (or known) that experienced and smart politicians are good politicians. Ms Norris is experienced and smart. Therefore, it is expected that as other experienced and smart politicians, she will also perform well when elected.

It is **a discourse** because the argument is presented as a message addressed to other persons. In this case is written, but it could be spoken. And it's **persuasive** because is intended to change or reinforce attitudes, beliefs, values, or behavior. It is a form of instrumental communication "in which the communicator seeks to elicit a desired response." (Andersen 1971, 6). Or, in other words, it is an attempt to gain person's adherence to the advanced claims. It goes like this. If you didn't think that Ms Norris is worth your vote and didn't plan to vote for her, take another look; reconsider it, since she is, after all, very good at what she does. Or: If you planned to give her your vote, be assured that your original decision was correct—yes, you should vote for her.

The example above is a single unit of argument. It consists of a claim and basic support. In most cases, single arguments are a part of a larger unit consisting of many single arguments. A simple political campaign advertisement "You should vote for Councilwoman Norris for mayor because she is an experienced and smart politician" could be further expended in a campaign speech by demonstrating that Ms Norris is indeed smart and experienced, that her experience is closely related to the work of city government, and even more, that her specific experience fits the requirements of the office of mayor. Each of the additional statements and the supporting evidence can constitute separate individual arguments or be a part of the larger argument.

That same argument presented in a political campaign setting could be also turned into more general argument not even related to Ms Norris. A political scientist could write a scholarly article testing a hypothesis that political candidate's political and administrative experience is a necessary condition for effective governing. Many of such larger units could be very complex. It could be an article, a book, or a philosophical treatise. A newspaper editorial of 400 words is an argument, The 1776 Declaration of Independence of 1322 words is an argument, and philosopher Immanuel Kant's *The Critique of Pure Reason* of more than 600 pages is also an argument.

Individual arguments (regardless of their complexity) are usually a part of a process that is called **argumentation.** It is a rare situation in which there is just one isolated argument, even if it is as long as a book.

One of the key characteristics of argument (and argumentation) is that arguments appear when there is a controversy, when people differ in their views and beliefs. Arguments challenge these views and beliefs. And when an argument challenges something, that argument will invite a response, a counterargument. The response will lead to another argument and the process will continue.

In that sense, argumentation is also **a debate** in which arguments clash. Thus, the earlier argument that "You should vote for Ms Norris because she is an experienced and smart politician," is very unlikely to remain unchallenged. Sooner or later someone will argue that Ms Norris is not the most qualified candidate. Some others will admit that her qualifications are good, but will question the reasoning that being experienced and smart is sufficient to be a good politician. Others will question whether she is really that experienced or that smart. Maybe she has some experience, but not necessarily in the areas that are most important for her new job. That, of course, will draw a response from supporters of Ms Norris to further fuel the debate. The same will apply to any other argument, whether political, moral, scientific, philosophical, or just a small dispute over an ordinary shopping trip or a game of chess.

Latin origins of the word debate—*battuere*— suggest a battle, a struggle between opinions and positions. As in any battle, the goal of all participants in a debate is to win. The settings, participants, and rules of a specific debate can vary, but it will always remain a contest of different views. Such understanding of debate will include a variety of forms: a traditional political debate between two or more participants, a formal college debate competition, a corporate board meeting deciding a new business strategy, or even a family dispute over a purchase of a new car. Further, a debate is not limited to face-to-face encounters: it could be a series of articles, books, and commentaries sometimes published over a period of time. There is also a debate when individuals face a variety of problems. For example, one might say "I debated whether or not to take that job," "I pondered the question of the best market strategy for our company." Such personal debates increase in importance when a person's final decisions affect other people. Sometimes it could be only a small circle of one's family and friends, sometimes the well-being of tens or hundreds of employees, and in case of presidents or military commanders, it could be the lives of hundreds, thousands or even millions of people.

All sides in a debate, all points of view, and all options—if treated seriously, of course—are forcefully promoted and defended by their proponents. By definition, there would not be any reason for a debate in the first place if the participants were not convinced about the correctness of their views. Further, although arguments could be peaceful and non-confrontational, most of times there will be a clash of ideas and positions requiring a constant reevaluation of one's own position, development of new arguments, counterarguments, and quick responses. That competitive character of argumentation troubles some people (Rieke & Sillars 2001, 4), perhaps because arguing can easily turn into a type of discourse that is not the most desirable: a quarrel, fracas, brouhaha, war of words, and more. But arguments don't have to become an ugly squabble. The arguments must be fought hard, but with honesty and respect for the opponent. Arguments are like sporting competition where we expect honest but hard competition and an occasional cheating or even fist fights don't deter us from appreciating the beauty of athletics. Competitiveness is inherent in argumentation and is its strength. British philosopher Karl Popper wrote:

> I hold that orthodoxy is the death of knowledge, since the growth of knowledge depends entirely on the existence of disagreement. Admittedly, disagreement may lead to strife, and even to violence. And this, I think, is very bad indeed, for I abhor violence. Yet disagreement may also lead to discussion, to argument, and to mutual criticism. And these, I think, are of paramount importance. I suggest that the greatest step towards a better and more peaceful world was taken when the war of swords was first supported, and later sometimes even replaced, by a war of words (1994, 34).

Since each position, each argument, each piece of evidence is constantly evaluated, scrutinized, and challenged, only the best arguments will be left standing. Thus the adversarial process of a debate is also a collaborative effort to resolve a controversy. That process is at once **advocacy** of a particular belief, preference, or policy and also the **inquiry** of finding the best answers to a problem or a controversy. That 'best answer' could be the ultimate truth, the highest probability of truth, the most desirable course of action, or even a compromise reached by the people involved in the process of arguing. Sometimes the debate responds to an immediate need to make a decision. For example in our justice system, each trial is a debate between two sides and it is concluded when the jury makes a decision. Similarly, corporate board meetings, government legislatures, or even a family discussion over where to travel the next vacation, will end with a resolution. Someone, an individual or a group of people, will make a decision. In other cases, the debate will continue without a specific resolution. For example many economic, philosophical, or moral ideas will continue clashing all the time, gaining some adherents here and there, losing others, without an immediate conclusion. Only over a long period of time do certain values prevail.

In that sense, argumentation is indispensable to humans. Argumentation is the main tool in technological, social, and personal development. Science is the best example of the power of argumentation. All we have today, all scientific knowledge, but also technology, e.g., computers, radios, and telephones is the result of scientific discovery through argumentation (or, more narrowly, methodology of sciences). All development in politics, human rights, and representative government is also the result of argumentation, in this case in the broader sense of a free exchange and examination of ideas. Of course, the road to success and progress has not been easy. More often than not it was the proverbial two steps forward accompanied frequently by a step back.

Our own personal development depends on argumentation as well. This should also assure students whose majors are different from Communication, Speech, Philosophy, or English (where argumentation or critical thinking is usually taught) that argumentation has very wide application. It is not limited to debate tournaments, and it is not unique to such professions as law or politics. Engineering, business, and medical students will use argumentation as much as anyone else. New inventions, innovations, medical procedures, and drugs don’t find the way to production or operation rooms by themselves. Someone will have to argue their worth, analyze costs versus benefits, and present findings to investors and decision-makers. And even if one would never present his or her own argument in a public or corporate setting, everyone is a constant target of others’ attempt to persuade us. How many times have we complained of being fooled by politicians, advertisers, salespersons, and lawyers? It happens often because we do not pay attention to the false reasoning used by others. That is another good reason for studying argumentation—to learn how to resist the sophistry and trickery of these people.

Good arguments, bad arguments: The Importance of Argumentation

Of course this great trust in the power of argumentation relies on good arguments. The definition presented earlier suggests that arguments are good, the supporting evidence is solid, accurate, and correct, and the reasoning follows the rules of logic. That is, of course, an ideal. We require and we hope that all arguments follow certain rules of a good argument. Thus, in the initial example about Ms Norris, we wanted to know whether there are reasons to believe that an experienced and smart politician can be a good mayor. There is no guarantee that such is the case, but it is very likely that experienced and smart politicians are good candidates for mayors. Still, even if the reasoning is fine, we would like to have more evidence. How do we know that is the case? Do we know it from social scientific research or just from a few observations? Further, we would like to have more evidence about the actual intelligence and experience of the candidate. Do we have to rely on her assurance, the testimony of her supporters, or is there hard evidence for the claim?

Unfortunately we know that arguments are often, perhaps even usually, made very differently. The claims remain the same, but the supporting points are not quite logical and the evidence is often weak or even false. There are many bad arguments in the world. You can hear them in the halls of Congress, from church pulpits and from college lecterns, on television and in newspapers. Even with the most honest intentions and great care, not all arguments are strong and convincing. Some would even suggest that such arguments are not arguments at all. We will settle on a very simple point: they are all arguments as long as they have a claim and supporting points. However, we will agree that some arguments are good and some are poor. Just like there is good writing and poor writing. Just like there are good cars and cars that nobody wants. They are still cars. Of course, it is not always easy to distinguish between good and bad. Sometimes there is a simple demarcation point and sometimes there are shades of good and bad arguments without a clear dividing point. What makes the matter more complicated is that many use bad arguments masquerading as good arguments, sometimes simply because they don't have any good argument on their side, and sometimes because they know that the audiences are easily influenced by things outside of evidence and logic.

It seems that one may accomplish much more by using methods that do not have much to do with good argument and strong evidence. Salespeople know that, and so do telemarketers, advertisers, clergymen, and politicians. Any training for sales position will emphasize motivational and emotional appeals, credibility of the salespeople, and it may even go as far as recommending hiding or twisting the facts. Political campaigns consultants are no different. However, those, and many others, are concerned with winning people over, but not necessary with the truth or desirability of the outcome of an argument. The dilemma here is no different than the one discussed by the Ancient Greeks and Romans more than two thousand years ago: what is more important, winning at any cost or winning by showing that one or the other side of argument is preferable when judged by the rules of rationality?

The reason why argumentation, critical thinking, and logic are so important is exactly that: to assure that we arrive at our conclusions through reason and evidence. The only response to bad arguments is to learn how to identify them, how to reject them, how to refute them. Understanding arguments and argumentation, knowing how to compose and present an argument and how to respond to arguments of others is as important as learning and mastering one's language or understanding basic principles of mathematics. Although argumentation cannot be compared with mathematics, our quest should be to reach conclusions as sure and certain as possible.

The Audience

The goal of all arguments is to build a strong case for one side of a disagreement, to promote or defend a belief or a course of action. It is assumed that the process of argumentation will lead to conclusions that are true, probably true, or at least the most reasonable. We have emphasized the fact that argumentation, unlike the broader concept of persuasion, relies to the highest possible degree on reasoning and reliable evidence. But we have also acknowledged that argumentation, like any other attempt at changing someone's beliefs or behavior, targets real people. Arguments are not presented in a vacuum; their objective is to gain **audience's adherence to the presented claims.** It goes without saying that people have different beliefs, preferences, values, and attitudes. The question, then, is whether we can still assume certain objectivity of arguments or settle for conclusions that will depend to a large degree on audiences with which we are arguing. This dilemma can be resolved by looking at our audiences at once as **particular** and **universal audiences** (Perelman & Olbrechts-Tyteca 1969). Particular audiences differ in their beliefs, attitudes, and preferences. Even when exposed to identical arguments, particular audiences could arrive at opposite conclusions swayed by their own prejudice, local interests, and emotions. It is enough to observe the conflict between various religious, ethnic or ideological groups to abandon any hope for some objectivity. After the U.S. presidential elections in 2000 and 2004, many saw a country divided ideologically to the point of no possibility of a rational discourse between the so-called blue and red states. There is even this belief among some social scientists that everything is relative and all depends on the person or the audience to which we address our arguments. But "if argumentation is totally dependent upon the whims of a particular audience… there can be no system of argumentative analysis, no means of generalizing about or evaluating arguments. In short, there can be no study of the process of argumentation." (Sillars & Garner 1982, 184). Obviously, there is no reason to deny the existence and influence of individual beliefs and preferences, but there is also no reason to believe that it is impossible to reach beyond them. It is rather clear that human thought is ruled by some basic principles that are common to all people despite their particular beliefs and feelings. **All people have the basic ability to think and reason.** Belgian philosopher Chaim Perelman introduced the name **universal** for such audiences. "A universal audience… is that audience, either immediate or long range, which is comprised of rational men and women" (Golden et al 1968, 297). Similarly, our legal system often refers to actions of "a reasonable person" as a standard of behavior. That "reasonable person" is "thinking, speaking, or acting according to the dictates of reason" (Black's Law Dictionary 1990). Such audiences are able to judge arguments and there is a reasonable expectation that they will arrive at the same conclusions when exposed to the same arguments. A conclusion that can be accepted by universal audiences "possesses… validity, independent of local or historical contingencies" (Perelman & Olbrechts-Tyteca 1969, 32).

Still, can we assume reasonableness if there are many cases in which such reasonableness is difficult to accomplish? One answer is provided by our judicial system. For better or worse we rely on juries that are comprised of average citizens; we rely on people who are not experts and people who don't have any special superior intelligence or knowledge. Yet we are generally satisfied with their service. During a typical jury selection process, the crucial question asked of potential jurors is if they are able to set aside emotions and prejudices that would influence their thinking about the evidence presented in the case. Most candidates usually are convinced that they can judge a case. At the same time, we certainly do not have absolute trust in people's ability to arrive at the "right" conclusions. In a jury selection the attorneys involved in the case are usually very suspicious about professed impartiality of the jurors. So should we be in any argumentative situation. That caution should not eliminate our trust in people's ability to reason, but it should prepare us to adapt the reasoning methods, facts, examples, and even the delivery method to particular audiences. Some audiences are more and some are less knowledgeable. Some are conservatives, some are liberals, and some are moderates. Some are believers and some atheists. Some are easily affected by feelings and others are not. Although most of them can be considered reasonable, they will respond to one's argument in a different way: with great enthusiasm or great skepticism, with interest or boredom, with open mind or with hostility and inflexibility. Being aware of audience's interests, beliefs, attitudes, and preferences and overcoming the variety of bias that all audiences have is often the first necessary step before engaging in a debate. That knowledge can, obviously, be used in a variety of ways, often in a manner not consistent with the proper argument. Many unscrupulous politicians or salespeople take advantage of people's fear, dreams, naiveté, and ignorance. But knowing your audience can be used in the most ethical and logical way as well. In the most simple and obvious example, one cannot even begin an argument without knowing the audience's position on the issue under consideration.

Audience Analysis

One needs to begin with this question: What is it exactly that I want to know about my audience? Of course specifics will depend on a topic; you want to know what the audience thinks about the topic, what the audience's attitude is toward it, etc. In more general terms, you want to know your audience's set of values and beliefs on social, moral, political, and economic issues. The next question is how to get the answer to that question? How to learn what the audience thinks about morality, politics, art, economics, etc? There are several ways to do it.

First, if possible, you can simply ask questions before preparing and presenting an argument. You can "sample" the audience by asking questions of only a few students on the assumption that they should represent the class (which, of course, will not be always true), or you can administer a quick survey, a questionnaire, to all or most students in class. Second, you ask others about the audience. Usually the organizer of a speaking event will know something about the expected audience. Third, you could hire professionals to do that for you. There are many companies and individual consultants who specialize in research on public opinions and public preferences. Whether you are an attorney, a politician, or a businessperson, sooner or later you will use such research.

Finally, you can try to deduce audience's preferences from other available indicators. Here we are coming to an extremely interesting but also delicate subject of what is **public opinion.** We always caution students not to jump to conclusions, not to stereotype groups of people, or make unwarranted generalizations. I would like to reemphasize these words of caution one more time. However, we also need to realize that there are certain characteristics that are more common to some groups and not to others. Differences in attitudes, beliefs, worldviews, political and ideological preferences, etc. occur among members of a variety of demographic categories, such as: age, educational level, sex, religion, racial/ethnic identity, nationality, socio-economic status, political party and other organizations' membership, etc. Some are uncontroversial and there is not a word of dispute over them, but some are arguable. For example, it is clear that it is more likely that young people will be less interested and concerned with political matters while older people follow the news and politics more carefully. It is also clear that conservative Republicans will be definitely more likely to be 'pro-life' on the issue of abortion while liberal Democrats will be 'pro-choice.' On the other hand, it is often perceived as purely stereotypical that women are more likely to be interested in cooking, shopping, and fashion while men are preoccupied with cars, home improvement, and sports. But even in that latter case, it is highly probable that men are generally more interested in sports than women are.

The question is, how do we know what is stereotypical and what is a reasonable characteristic of a group? Well, we may never be one hundred percent sure of it, because generalizations are always based on probabilities and percentages. That's why we use such words as 'more likely' or 'less likely.' We don't say, "All young people don't vote." We say, "Young people are less likely to vote than people in other age groups." Or, we can say that the voter turnout among 21 to 24 years old is about 35% while among 25 to 44 it is 50% and among 45 and older the turnout is about 70%. **Generalizations** are based on surveys, polls, endless observations, etc. When poll after poll shows that around three-quarters of African Americans identify themselves with the Democratic Party and only a few percent with the Republicans, we can easily say that African Americans tend to be Democrats, just as we know that women are generally more likely to be pro gun control, but against war and military spending. **Stereotypes**, on the other hand, come into play in two ways. One is when the generalization is based on questionable or insufficient evidence. The other type of stereotypes is assuming that the characteristics associated with the group apply to all individuals in the group. For example, it is true that more men than women are interested in sports, but to assume that this is the case for each and every man (or woman) is a stereotype.

Identifying the main characteristics of audiences is an art and, by now, a science. Marketing companies, television and film production companies, attorneys, and politicians use it with a great degree of success. At the same time, a word of caution is necessary: conduct audience analysis carefully because misreading, misinterpreting, and outright stereotyping your audience could be worse than not knowing anything about it.

Key Terms

Persuasion
Methods of persuasion
Pathos
Ethos
Logos
Argumentation: definition, the importance

Argumentation as advocacy and inquiry
Argumentation as a debate
Critical thinking
Reasoning
Evidence
The Audience: particular and universal
A reasonable person
Audience Analysis

Study Questions

1. List and explain all parts of the definition of argumentation.
2. Explain the meaning of the statement: *Argumentation is at once, advocacy of a particular belief, preference, or policy and also the inquiry of finding the best answers to a problem or a controversy*.
3. Explain the difference between argumentation and persuasion.
4. Explain the concept of System 1 and System 2.
5. Explain the concepts of *logos, pathos, and ethos.*
6. Explain the concept of *reasonable person*.
7. How demographic indicators can tell us about people's values and beliefs?
8. Discuss the importance of argumentation and critical thinking

Exercises

1. Often the term argument is associated with unpleasant quarrel or a fight. Do you see arguments as fights? How much of a problem is this perception in your everyday interactions with other people?
2. Examine reasons for your recent purchases (items at a grocery store, DVDs, music, games, clothing, etc.). Even if many of these items are everyday necessities, you had several options in each category. Why you selected one brand and not another? Where you influenced by friends, family, advertisement, or something else?

Argument Portfolio

Throughout your studies of argumentation you should collect a variety of arguments (opinion pieces from major newspapers and magazines, transcripts of speeches and debates, legal briefs, notes on arguments presented in class or your private conversations, etc.). Each time you learn new material you should reexamine all or some of the arguments. Today begin with identifying whether the selected pieces constitute an argument. What makes them argumentative?

2

Controversies: The starting point of an argument

The Status Quo and Presumption

All arguments and debates have a starting point. The **necessary** component to trigger an argument is **a disagreement or dissatisfaction** with the existing beliefs or policies. Without the disagreement or dissatisfaction, there is no reason for an argument. The situation in which something exists unchallenged is known as the **status quo**. These words are from Latin and mean the "existing state of affairs." A general acceptance of status quo is based on the **presumption** that the existing things, policies, or beliefs are correct, true, proper, adequate, or sufficient (at least for the time being). For example, people who are married generally want to stay married and accept their situation as natural. Most Americans accept the Social Security system for retirement as an important social program and most Americans accept taxation as necessary (but often they disagree with the level of taxation). There are many reasons for accepting the "existing state of affairs." Some reasons are good, some are not. Sometimes we accept something simply because we were born into it. The process of socialization is exactly that. Children accept cultural and social norms through school, home, and sometimes church. Sometimes the acceptance is based on deeper reflection, evaluation, and scientific proof.

In short, to say that there is a status quo does not imply that we must invariably agree with it. **There is no sanctity of status quo and all presumptions are refutable.** Development of civilizations, philosophy, science, and technology is a process of challenging status quo. There were times when people believed that the Sun orbits the Earth, that slavery is acceptable, and that life on Earth began a few thousand years ago, beliefs that today we see as ignorant and nonsensical. The chances are that today we are also convinced about something that we will find to be untrue later. And of course there are many beliefs in the realm of opinions where we will never find a clear resolution to the controversies.

The reason for emphasizing the importance of knowing status quo is practical. First, as long as there is a strong acceptance of existing beliefs or policies, there is no reason to argue in defense of them. Further, in case of policy arguments, knowing what are the present laws, policies, and regulations prevents us from the proverbial "reinventing the wheel." If, for example, all states have laws prohibiting smoking in public buildings, arguing that smoking should be prohibited in all public buildings would not make much sense. Or, since we already have laws accommodating disabled persons, arguing for such laws is simply unnecessary. Only when one discovers some faults, weaknesses, inadequacies, or other problems with the existing beliefs or laws, an argument will be required. Thus, if after a closer look at the Americans with Disabilities Act of 1990 one fully agrees with all provisions of the legislation, no argument will be necessary. But such closer examination could also lead to other conclusions. A person could come to a belief that the Act in principle is unnecessary or even harmful; or, on the other hand, that the legislation is inadequate. In both cases an argument must be made against the status quo. The argument could be for elimination of the Act, for some modifications and changes, or for completely different legislation on that subject.

Burden of Proof and Prima Facie Case

Whenever a person advocates a position that is contrary to the *status quo* and the accepted presumptions, it is the obligation of that person to prove his or her claim. In other words, the **advocate** of the new position (a position different from the presumed status quo) has **the burden of proof.** This is a logical principle going back to antiquity. The Latin maxim *necessitas probandi incumbit ei qui agit* states that "the necessity of proof lies with he who complains." That person must provide (or attempt to provide) a proof for his or her position. In contrast, no action is needed in defense of the status quo until a strong case is made against it. The *status quo* is presumed correct and desirable until proven otherwise. In the words of Richard Whately (1787-1863), a rhetorician whose terminology of argumentation is still largely used today:

> There is a Presumption in favour of every existing institution. Many of these (we will suppose, the majority) may be susceptible of alteration for the better; but still the "Burden of proof" lies with him who proposes an alteration; simply, on the ground that since a change is not a good in itself, he who demands a change should show cause for it. No one is called on (though he may find it advisable) to defend an existing institution, till some argument is adduced against it; and that argument ought in fairness to prove, not merely an actual inconvenience, but the possibility of a change for the better (1963: 114).

Meeting the burden of proof is known as establishing a **prima facie case**. **Prima facie is defined as an argument that is sufficient to raise a reasonable question and doubt regarding the status quo**. We could say that prima facie means a fully developed argument strong enough to justify a change in beliefs or policies. As with many other concepts in argumentation, this also has an equivalent in law. There, **prima facie case is "such as will prevail until contradicted and overcome by other evidence.**" (Black's Law Dictionary 1990: 1189). This does not mean that prima facie case conclusively establishes the ultimate truth. However, at least for the time being, prima facie case establishes a new status quo. The new status quo will stand until "contradicted and overcome by other evidence." In other words, just as there is a new status quo, there is also a shift in the requirement of **the burden of proof.**

To illustrate the concepts of status quo, presumption, burden of proof and prima facie case, we could reach to an example from the legal system (without getting into technical terminology or procedures). Say a person has been arrested by the Highway Patrol on a suspicion of drunk driving. That person pleads not guilty, and the case goes to trial. The status quo is that people should not and do not drive drunk. Therefore, we cannot simply arrest people at random and send them to jail. We must prove that they were driving drunk. That is according to the well-known principle of "presumed innocent until proven guilty." Thus, the burden of proof is on the prosecutor trying the case. The defendant does not have to do a thing in his defense until the prosecutor establishes a strong case that would shift the burden of proof from the prosecutor to the defendant.

The prosecutor presents a testimony of a police officer who observed the erratic driving of the defendant. Is this sufficient for a prima facie case? Probably not: erratic driving could be the result of a variety of factors. Then the prosecutor presents evidence that the defendant failed a field sobriety test (he was not able to walk a straight line, count to ten, etc.) Would this suffice for a prima facie case? The prosecutor is getting closer, but a sobriety test is still not quite enough. His final piece of evidence is the actual blood test showing the level of alcohol in blood above the legal limit. The prosecution rests its case.

At this point in the trial the jurors would probably come to a conclusion that the defendant is guilty. In other words, the prosecution has established a prima facie case. That means that the new prevailing belief (the new status quo) is that the defendant indeed drove drunk that night. Again, according to the legal definition, that belief will prevail until contradicted and overcome by other evidence. Therefore, now the burden of proof shifts to the defendant. Although this was not necessary at the beginning of the trial, now the evidence against the defendant is so strong that he actually must prove that he is not guilty. That burden of proof is often called the **burden of refutation**, because the point is not so much to prove the defendant's innocence, but rather refute the prosecution prima facie case. For reasons of simplicity we will use both interchangeably. Now the defendant must challenge this new status quo. As we stated earlier, the strongest piece of evidence used by the prosecution was the lab test indicating a high alcohol level in blood. The defense would have to focus on that specific evidence. Perhaps the defendant could challenge the reliability of the lab, the lab technician's expertise, the handling of the sample, etc. If the defense could refute prosecution prima facie case, the presumption would return to the original status quo. (It must be noted that this example is intended to illustrate the concept of prima facie in the general understanding in the argumentation process, not the actual court procedures).

Natural and Artificial Status Quo

The concepts of status quo and presumption seem to be fairly obvious. However, in real life it is not always certain what exactly constitutes that status quo. Although in case of law and public policy things are fairly clear, not everything can be judged by the existing laws or regulations.

There are beliefs that are not settled and beliefs that perhaps cannot be settled. Many of them have as many adherents as detractors. Thus, the status quo and the presumption could easily differ from place to place and from one group of people to another. In a world of constant arguments, conflicts and changing beliefs, determining status quo may seem **arbitrary**. And often it is arbitrary. Thus, we distinguish between what is often called **natural status quo** and **artificial status quo**. A natural status quo does not need any further explanation, but a few words must be said about situations in which an agreement on who is responsible for the prima facie case is difficult or even impossible. In such cases the debaters must decide who will proceed with the argument first. And sometimes it happens that regardless of the actual and fairly clear status quo, the debaters want to switch the requirements of the prima facie. For example, one could decide to begin an argument with an artificial status quote claiming that "The Earth is flat," thus forcing the other side to prove that that is not the case. We know that there is no need to argue such an obvious case, but the argument could help in practicing argumentative skills or even in recreating historical arguments made by Ancient philosophers and scholars.

In any case, whether the status quo is natural or artificial, establishing that starting point of a debate is very important. It permits us to make sense of the roles and responsibilities of arguers in a debate. When we know the status quo, we are able to place debaters' views in relation to that status quo. As we have stated earlier, the one who advances claims contrary to the status quo has the burden of proof. He or she is responsible for making the case. To use the words of Whately again: "It is a point of great importance to decide in each case… on which side the *Presumption* lies, and to which belongs the… Burden of Proof." (1963: 112).

Stating the Controversy

It is clear that there is no shortage of controversial matters. Daily newspapers, television news, magazines, college lectures, political speeches, court rulings, government regulations, corporate rules, sport events and one's favorite sitcom give an endless supply of topics. We disagree, we doubt, we question the existing state of affairs. Or, in other situations, we are compelled (or forced) to defend our beliefs and policies when challenged by others. Many arguments are in defense of our political, moral, and aesthetic beliefs. Others are over practical matters related to our work, profession, research, or even family affairs. We may engage in a debate over the ethics of the death penalty or in an argument over the performance of the company for which we work.

Thus, finding a topic for an argument is not an issue. Disagreements come naturally. What is, however, challenging is to make one's position clear. Often we feel that we know the point we are trying to make, but formulating it eludes us. For instance many dislike the idea of genetic engineering, especially when it applies to humans, but are not sure what exactly causes that discomfort. On the one hand they do not oppose some intrusions that could, say, cure diabetes, but they reject attempts at changing a person's intelligence by manipulating that person's genes. Where is the controversy, then? It is not enough to say, for example, "Something bothers me about genetic engineering." One must decide what exactly he or she wants to say about that subject. What is this "something" that bothers that person? Is the argument about all genetic engineering or just the one affecting certain areas of human organisms? What are the reasons for one's apprehensions about genetic engineering? Is it the principle or the fear of consequences of such research? Specifying the answer will also show what side in the controversy the person takes. Is genetic engineering good or bad? Is it desirable or not? Is it effective? Is it risky? Is it unethical?

The response to these questions is entirely within a person's preferences, but for an argument to take place and to be productive the answer must be provided and must be stated clearly. That answer is a statement that identifies the controversy and identifies the arguer's position. Such statements are known as propositions or claims.

Propositions

All arguments begin with **a proposition**, an assertive statement that establishes the controversy. It indicates the direction of the argument and determines the position of the participants in a debate (who is challenging the status quo and who is defending it). **A proposition is a statement that asserts that something is (was, will be) or that something should be (should take place). Such statements may be affirmed or denied. Or, in**

other words, their truth or desirability can be accepted or questioned. If we say that John is an athlete, we can either affirm that (agree with that statement) or deny it (John is not an athlete). If we say that the United States should adopt a flat tax policy, we can either agree with this course of action or deny its desirability (The United States should not adopt a flat tax policy). A proposition can be as simple as "Today is Friday" or "In New York summer months are warmer than winter months," and as complex as "Genetic engineering is unethical" or "The dams on the Columbia River should be removed to protect the population of salmon in the region." When we take a closer look at each of the examples, we notice that the propositions differ not only in the subject matter that they argue. The first concerns facts, the second evaluation, and the third the course of action that needs to be taken. That is the usual classification of propositions.

> **Propositions of fact** (factual, designative propositions). Propositions of fact are statements affirming that certain things or conditions exist or happened in the past. Propositions of fact are verifiable: it can be determined if they are true or false.
>
> **Propositions of value** (evaluative propositions). Propositions of value state that a thing, person, or event is of certain value. Where facts end and values begin is not always clear. The general principle that distinguishes factual propositions from evaluative propositions is the clarity of the predicate, the word that indicates the property of the subject (e.g., Anne is beautiful).
>
> **Propositions of policy** (advocative propositions). Propositions of policy state that a certain course of action should be taken.

Before we examine each category in greater detail (next two chapters), an important note is in order. Although we classify arguments based on the key question that must be ultimately answered, all arguments are a complex combination of various claims (propositions) that must be argued at one point or another. Further, each type of claim serves a different type of function in an extended argument. For example, propositions of fact are usually the basic building blocks of any argument, while value propositions serve to evaluate and policy propositions serve as a call for action (decision, policy). In that sense, there is **a hierarchy of propositions.**

Hierarchy of Propositions

Factual propositions are the basic component of any argument. Whether something is or exists is the key question that usually must be answered before engaging in any other argument. Only then, a particular event or a thing could be evaluated, its quality could be assessed, and a decision could be made. The legal system is an excellent illustration of the connection of arguments based on the three different types of propositions. Many say that courts rely on arguments about factual propositions. This is true, but it is also misleading. Actually, the legal system is concerned with the matter of guilt and innocence—a normative (evaluative) matter. The reason why we tend to focus on facts is that the legal norms are clearly defined by statutes and by establishing facts we automatically establish guilt or innocence. Of course, the criteria for what constitutes guilty or not guilty are open to changes, interpretations, and often differ depending on time or place. But if the criteria are clear and, for example, a person is found guilty, the legal system will necessitate another step—a punishment. Thus:

Proposition of Fact:
Person X engaged in a sexual relationship with a minor.

Proposition of Value:
Person X is guilty of a crime (according to the statute).

Proposition of Policy:
Person X should be punished by a fine, jail term, etc.

In another look, policy propositions are equivalent to a decision made after evaluating available options. The correctness of the decision (choice) is supported by a series of factual or evaluative propositions. For example:

Factual propositions:
1. Nuclear energy is environmentally cleaner.

2. Nuclear energy costs very little.
3. Nuclear energy is readily available.

THUS
Evaluative proposition:
Nuclear energy is superior to other types of energy (coal, oil, etc.)

THEREFORE (If a decision must be made)
Policy proposition:
The U.S. Department of Energy should institute a program for building more nuclear plants in the United States.

Although it would be difficult to have a policy proposition without support derived from a series of evaluative or factual propositions, it is possible to have an evaluative proposition without going into an actual decision-making. We could, for example, argue with friends that Ferrari automobiles are better than Lamborghini, even though we cannot afford to buy either of them. Yes, it would be implied that if we could and were ready to buy a sport car of this kind, we should buy the one that we consider better. Or, we could also argue that Michael Jordan is the best all-time basketball player without any further consequences of our conclusion. He is the best and that is all. And then again, although it would be difficult to defend an evaluative proposition without factual propositions, it is possible to argue factual propositions alone. In the earlier example, we use the following propositions to support an evaluative statement claiming that nuclear energy is superior to other types of energy: Nuclear energy is environmentally cleaner. Nuclear energy costs very little. Nuclear energy is readily available. Each one could be argued without any need to follow up with the next level of propositions. One could be simply interested in knowing whether nuclear energy really costs very little or that, perhaps, there are some hidden or long-term costs that makes it more expensive than more traditional energy.

In the next two chapters I will examine all three types of propositions in greater detail.

Practical considerations

Technically any declarative statement can be used as a proposition starting a debate. However, not all propositions lend themselves to interesting and productive discussions. Thus, before advancing a claim, certain practical considerations must be taken into account.

First, for a debate to occur there must be a controversy. A proposition "In New York, summer months are warmer than winter months" has an obvious resolution. The statement is true and no argument on the subject is necessary. It would be foolish to spend any time on proving that statement. On the other hand, such propositions as "Computer assisted instructions are ineffective," "The United States should invade North Korea," "Social Security Administration should be abolished," or "Animal testing is immoral" are clearly controversial.

Second, the controversy identified by a proposition should be timely and significant enough for a fruitful debate. What is timely and significant is not always easy to determine. That will usually depend on the people who are involved in a debate. If one argued, "Beef franks taste better than hot dogs," probably very few would find that proposition of any real importance. But such argument could be important to some: the producers of hot dogs or owners of fast food restaurant. Generally, it's more likely that people would argue about recent controversies that affect people's lives, jobs, education, national security, etc. It must be emphasized that the word "significant" does not always refer to the widely debated national issues as taxes, environment, gay marriages, war in Iraq, or death penalty. There are many important arguments on local matters, e.g., whether a local ordinance prohibiting smoking on a city's beaches is fair and necessary.

Third, the proposition must be narrow enough to be handled in the time allotted for an argument. Many arguments and debates can go on for hours, days, and even weeks. However, they are usually processes in which many people present their cases. Individual participants don't have the luxury of many hours to state their point. Arguments before the Supreme Court are usually limited to 30 minutes for each side, most congressional debates are over in an hour with individual legislators permitted to speak just for a few minutes each, classroom speeches are between 5 and 10 minutes long, typical college essays are no more than 1000 words, and op-ed submissions for a typical daily are around 600-800 words. Although any proposition can be argued even in a two-minute speech, the question is how effective that argument would be. It must be remembered that the arguer's goal is to make his or her case. Attempting too much in too little time will lead nowhere. Thus, the proposition must be narrow enough so a convincing argument could be made. For example, instead of proposing to reform the entire tax system, an argument on only some parts of the tax code would be more effective. Of course, sometimes that is not possible. Certain topics cannot be argued partially (e.g., death penalty). In such cases, it is not so much a question of narrowing the subject, but making a strategic decision regarding which parts of the argument can be most effective in the time allotted.

Phrasing the Proposition

State your proposition in a full and declarative sentence. A proposition is an assertion and it should not be mistaken for a question or a fragment. Thus, one should say "State colleges should introduce a comprehensive entrance examination for all new students," not "Should state colleges introduce an entrance exam?" or "Entrance exams for state colleges."

Propositions should be definite. Say "State colleges should introduce a comprehensive entrance examination for all new students," not "State colleges should do something about the admission requirements." This second statement could be a good start in examining the situation and finding available options, but the actual claim must be more specific and definite. If you think that something should be done, but you are not sure what that is, then perhaps you should abandon that argument and argue something different, for example that "The admission system at state colleges is ineffective." And that would be a different claim and a different argument.

Propositions should present a single idea. Avoid presenting multiple unrelated (or remotely related) ideas in your thesis. Say "State colleges should introduce a comprehensive entrance examination for all new students," not "State colleges should introduce a comprehensive exam and require higher SAT scores." Naturally, it is possible to argue both ideas at the same time, but introducing both at once could be confusing and ineffective.

Propositions should be clear. Use clear and concrete language. Don't use figurative language, slang, or difficult jargon. It may be okay to say "The admission system for state college sucks" in a chat with friends, but such statement is not appropriate as a thesis for a formal argument.

Propositions should be fair. Although an arguer is taking a position that is clearly on one side of the issue, it is not necessary to introduce person's biases in the initial claim. You should not say, "It is about time that state colleges should introduce a comprehensive entrance examination…" Adding the words "it's about time" is not necessary and could be perceived as an attempt to influence the audience by means other than rational argument. If you can prove that a comprehensive exam is necessary, it will follow from your argument that the change must be made as soon as possible.

Definition of terms

The participants in a communication transaction should have a common understanding of the terms used. To accomplish that, one must assure that the key terms in a speech are defined properly. This does not mean that one should spend half of the argument explaining words; the audience is knowledgeable and intelligent enough to understand most terms without consulting a dictionary. However, there will be terms whose meaning may not be entirely clear to the listeners and that lack of clarity could result in misunderstandings. Such misunderstandings must be avoided.

Even simple words could cause some trouble. When, for example, we say John is an athlete, we assume that the meaning of 'athlete' is: a person who engages in athletics (as in a dictionary definition). But what is the meaning of 'being engaged in athletics'? On the one hand this is very simple: 'being engaged in physical activities, sports, etc." However, the question is whether that definition denotes organized sports or any recreational physical activity? Is Roger Federer, who plays tennis professionally, an athlete? Of course he is. Is John, who, for example, is a member of college's basketball team an athlete? Sure. But can you say that a person, who goes bicycling once a month and kayaking two times a year, is an athlete?

Of course, it would be rather unusual to be confused about simple terms, especially when the context of an argument would certainly help 'decipher' the meaning of a particular term. Yet the point here is not to make things more complicated, but to show that even in simple matters, a clarification may be necessary. There are many terms that will never be entirely clear until defined or explained by the arguer. Consider such basic terms as "a Christian" (as in "being a Christian"), "Affirmative Action," "Euthanasia," "Love," "Liberal," "Progressive," or "flat tax." Although they seem obvious, what is obvious to one person may not be obvious to another. For example, the principles of affirmative action are generally clear, but it seems that everyone has his or her idea about specific methods of applying the principle. For some people affirmative action policies mean admission quotas, while for others it is basically an outreach program—two diametrically different positions.

Types of definitions

Reportive definitions are dictionary definitions, the commonly accepted meaning of words. They are the most authoritative. Of course, there is rarely any dispute about the basic definitions. Most speakers of a particular language know the meaning of commonly used words in that language. And if they don't, they accept a dictionary definition. Everyone knows what handkerchief is and if someone is not familiar with the word, a quick check in a dictionary would report that handkerchief is "a square of cotton, linen, silk, etc., usually carried in the pocket for wiping one's nose, etc." However, the problem occurs when a dictionary accounts for various meanings of the same word or when the word is a complex concept that cannot be reduced to one-two sentence definition. For example, the noun Christian is defined as (a) a person who has received Christian baptism, (b) an adherent of Christ's teachings, or (c) a person exhibiting Christian qualities. Although a person could be all three at the same time, it is possible that a person has received Christian baptism but is not an adherent of Christ's teaching. Is that person still a Christian? The third option is different altogether because there could be a disagreement of what constitutes Christian qualities. As Bertrand Russell wrote:

> some people mean no more by it than a person who attempts to live a good life. In that sense I suppose there would be Christians in all sects and creeds; but I do not think that that is the proper sense of the word, if only because it would imply that all the people who are not Christians… are not trying to live a good life." (Russell 1957, 3)

In such cases, a stipulative definition is necessary.

Stipulative definitions are definitions that specify the meaning of a particular term or establish an additional or different understanding of a term. Sometimes this type of a definition is known as a definition proposal, because it proposes certain understanding of a word or concept (Beardsley 1975, 212). Thus, in case of the word *Christian*, one could choose any of the three dictionary definitions. For Russell, the word *Christian* cannot be defined by baptism or so-called Christian qualities. He writes: "I think that you must have a certain amount of definite belief before you have a right to call yourself a Christian" (Russell 1957, 4). Of course, in other situations, definition by baptism could suffice. When an almanac gives a number of Christians in the world as 2 billion, the number is surely based on baptism (or related indicators) without evaluating specific beliefs. Further, one could make additional stipulations by suggesting that the word Christian will be understood as "fundamental Christian" and distinguished from Roman Catholics, Methodists, etc.

Theoretical definitions are necessary in situations where there is a dispute over a theoretical meaning of a concept. For example, what exactly is love? It seems that we all know what love is, but we are not sure how to define it. Most people may not find any special need in defining love—their own views on the subject (sometimes just feelings) are sufficient. Yet for psychologists who study human behavior there must be certain clarity about the subject. One cannot study something that is elusive and cannot be defined. In one definition, love is seen as a combination of intimacy, commitment, and passion that two people share (Sternberg 1998, 4-5). Although this description is still ambiguous, it permits us to examine love through somewhat more specific components of the original concept of love. The reason why such definitions are called theoretical is that they attempt to form a theory about certain concepts or phenomena. These theories could be disputed and another theory (and a definition) could be advanced. Often an argument must be made just to develop and support a theoretical definition.

Operational definitions are intended to define a concept by observable and measurable indicators. They are based on other definitions. For example, although we all know what poverty is, that general understanding of the concept cannot be measured in any concrete and exact way. Governments need that exact measurement to be able to administer social programs intended to help the poor. One solution is to measure poverty by a specific level of income. One organization that is measuring poverty level is the U.S. Census Bureau. For example, in 2010 an individual with an income of $11,139 or less was considered poor (U.S. Census Bureau 2011). For a family of three the number was $17, 374. Although such an indicator, no matter how carefully designed, can be seen as unfair, there does not seem to be any other better way to deal with the problem.

In the earlier example of the definition of love, three components of love were identified: intimacy, commitment, and passion. Now the question is, how can we measure the level of commitment? This is the role of operational definitions. In this specific case, a set of statements is being given to individuals. The level of acceptance of each of them (in a scale from 1 to 9) will generally indicate the level of commitment. Among the items one could find: "I am actively supportive of my partner's well-being" or "I am able to count on my partner in times of need" (Janda 1996).

In addition to the types of definitions, there are also many different ways of enhancing an explanation. Sometimes even the most concrete and clearly explained definition is not entirely clear to the listeners. In such cases additional methods must be used. An explanation can be attempted by using **an example** of a particular word, concept or phenomena, a **comparison or contrast** with other terms, by showing what the term is not (**negation**), or by describing **how the "thing" works**. Naturally, everything is acceptable as long as it is effective in reaching the goal of better mutual understanding.

The Principle of Charity

It is the speaker's responsibility to make his or her terminology as clear as possible. Yet, the listeners should also make sure that all is clear to them.

The principle of charity requires that listeners request and accept clarifications. However, if the author of a speech or an argument is not present, the listeners/readers should not take advantage of possible misunderstandings. They should adopt a reasonable or even the most charitable interpretation of the material.

Key Terms

Status Quo
Natural and artificial *Status Quo*
Presumption
Burden of proof
Prima Facie case
Burden of refutation
Proposition
Proposition of fact (factual, designative)
Proposition of value (evaluative)
Proposition of policy (advocative)
Hierarchy of propositions
Phrasing the proposition
Types of definitions

Study Questions

1. Explain the concepts of *status quo, presumption, the burden of proof, and prima facie case.*
2. Explain the three types of *propositions*.
3. What is the key difference between proposition of *fact* and *value?*
4. Explain the idea of *Hierarchy of Propositions*
5. Explain what *Reportive, Stipulative* and *Operational* definitions are.
6. Explain *The Principle of Charity*
7. List the main requirements in writing a proposition

Exercises

1. Find propositions that are difficult to place in either fact or value category. Explain the difficulty.
2. Practice defining objects and things that you encounter everyday (e.g., car, television, book, calendar, song, etc.). Compare your definition with a dictionary's definitions.
3. Practice operational definitions. For example, how would you define "good person," "successful politician," or "happiness"?

Argument Portfolio

Take another look at the material in your portfolio. Can you identify the key propositions (claims)? Are these arguments about facts, values, or policies? If the main propositions are not stated clearly or are only implied, write or rewrite them.

3

Facts and Values

Propositions of Fact

Timothy Garton Ash, a British journalist and historian titled his collection of essays: "Facts Are Subversive." The Preface begins: "Facts are subversive. Subversive of the claims made by democratically elected leaders as well as dictators, by biographers and autobiographers, spies and heroes, torturers and postmodernists. Subversive of lies, half-truths, myths… If we had known the facts about Saddam Hussein's supposed weapons of mass destruction… the history of this decade could have been different." And later continues: "Facts are cobblestones from which we build roads of analysis. They are mosaic tiles that we fit together to compose pictures of past and present. There will be disagreement about where the road leads and what reality or truth is revealed by the mosaic picture. The facts themselves must be checked against all available evidence" (2009).

If we all respected and searched for facts, the passionate words of Timothy Garton Ash would not be necessary. After all, what to argue about it? Facts are facts. Imagine two people arguing about the rate of unemployment in the United States in, say, 2001 and 2011. Is there any reason to have such an argument? Of course not: a quick check with the U.S. Department of Labor or any secondary, but reliable, source will tell us that unemployment in January of 2001 was 4.2 percent and in January of 2011 the rate was 9.0. Yet, obviously, not all facts are that simple. First, not all facts are easily proven. Often the problem is with the evidence that is not always available or very difficult to find. But the second problem is more significant: people's beliefs often prevent them from searching for facts or accepting facts that otherwise would not be disputed. Sometimes this happens because the beliefs are not challenged, but sometimes, even when faced with unassailable truth, some simply refuse to change their false but cherished beliefs.

For example, in recent years there were many arguments about teenage pregnancy. In almost all discussions there was always someone who juxtaposed present problems to the "idyllic and happy" past. Very few questioned the past because most Americans are convinced that teen pregnancy is a recent phenomenon. But is it? Some sociologists argue that the facts on which we base our views of the present and the past are not necessarily accurate. Here is how one author presents some facts about the teen pregnancy in the 1950s:

> Those who advocate that today's youth should be taught abstinence… rather than sex education will find no 1950s model for such restraint. "Heavy petting" became a norm of dating in this period, while the proportion of white brides who were pregnant at marriage more than doubled. Teen birth rates soared, reaching highs that have not been equaled since. In 1957, 97 out of every 1,000 girls aged fifteen to nineteen gave birth, compared to only 52 of every 1,000 in 1983. A surprising number of these births were illegitimate, although 1950s census codes made it impossible to identify an unmarried mother if she lived at home with her parents… The incidence of illegitimacy was also disguised by the new emphasis on "rehabilitating" the white mother (though not the black) by putting her baby up for adoption… There was an 80 percent increase in the number of out-of wedlock babies placed for adoption between 1944 and 1955 (Coontz 1992, 39).

That single quotation surely does not solve all disputes on the subject but it does show that not everything is or was the way we imagine it. It seems that we feel very comfortable with what we came to believe to be facts. Our images are like stereotypes: "once established in our minds, are almost impossible to shift in the light of subsequent experience" (Kołakowski 1999, 139). Some of our misconceptions are harmless, maybe even charming, but most others can lead to serious consequences when, in turn, they are used to form value judgments and public policies. For example, former president of South Africa Thabo Mbeki's denial of the obvious fact that HIV causes AIDS set his country's fight against AIDS several years back causing many unnecessary deaths. The widespread belief among many Africans that an intercourse with a virgin cures AIDS caused so many rapes and infections. But belief in pseudoscience is also widespread in the United States. For example, 41 percent of Americans believe in astrology and 60 percent believe in psychic power, and many still believe in creationism and in ghosts. "70% of Americans still do not understand the scientific process, defined in the NSF study as grasping probability, the experimental method, and hypothesis testing," writes Michael Shermer in his recent book *The Believing Brain* (2011). Thus, even if there were no other reasons, dispelling myths, pseudo-science, and superstition would be a good reason for arguing about facts.

Finally, there is a great deal of falsifying of facts for financial or political gains. Some are simple exaggerations; some are outright lies. The following is just one example among many. In October of 2004, Federal Trade Commission filed a lawsuit against marketers of dietary supplements, CortiSlim and CortiStress, for false medical and dietary claims. Commercials claimed that CortiSlim causes "weight loss of 10 to 50 pounds for virtually all users… as much as 4 to 10 pounds per week over multiple weeks… specifically from the abdomen, stomach, and thighs…" and CortiStress "reduces the risk of, or prevents, conditions such as osteoporosis, obesity, diabetes, Alzheimer's disease, cancer, and cardiovascular disease" (Federal Trade Commission 2004). Watching commercials for these supplements, one would think that we just discovered a new elixir of life. Of course, all of these claims are unsubstantiated.

How to approach arguments about facts?

Propositions of fact are statements affirming that certain things or conditions exist. In other words, the statement about things or conditions corresponds to the actual things or conditions in the material world. If that is the case, propositions of fact are verifiable. In common understanding, **a proposition is verifiable if its truth could be established**. However, realizing that a conclusive truth is not always attainable, **a proposition can be considered verifiable if it is possible to show that the proposition is probable** (Ayer 1952, 9). The truth or probability can be established by **observation,** an **experiment,** or a **testimony.**

Before engaging in the process of verification, we need to understand what type of facts we have before us. One simple classification is into **observable facts** and **theoretical constructs**. Some factual statements refer to simple properties of things—for example, the size, temperature, location, etc., but others are more complex and refer to relationships between things or phenomena. For example, when in comparing the Japanese and the Americans in ordinary conversations, we conclude that the Americans seem to be more assertive, we are talking about observable facts. When we try to explain the differences in terms of a theory of collectivistic and individualistic cultures, we are introducing a theoretical construct. We created the concept of collectivistic and individualistic cultures. Both concepts describe certain characteristics of a culture, but they are observable only indirectly.

Let us begin with an example of a simple proposition of fact: "A mature fruit of tomato is red or yellow." Proving that statement is not difficult. A quick visit to a supermarket (or a look into the refrigerator) would confirm the assertion that tomatoes are usually red and some rarer varieties are yellow. Of course, one person's observations could be questioned as not sufficient. To remedy this problem, many observations could be made of tomatoes in the grocery store, on the field, and in the hot house. Further, the present observations could be compared with past observations by botanists, farmers, and consumers. The example illustrates verifications by a **direct observation**. Of course, not everything can be observed as easily as the tomatoes. Sometimes things exist or happen without anyone available to observe them. In such cases, the proof must be deduced from **indirect observations**. These are observations that only indirectly show the facts we seek. Indirect observations are known also as circumstantial evidence. Criminal investigations are based largely on such process. For example, someone's presence at the crime scene could be deduced from his or her fingerprints, DNA sample, or other similar evidence. The temperature of a car's engine could indicate that car was driven recently. The authorship of a letter can be determined by comparing the letter in question with other writing of a person. Some indirect observations are often as good as or even better than an eyewitness to the crime, but others are much less certain. Verification based on circumstantial evidence is usually more complicated because often there is more than one explanation for a particular indirect observation. For example, if police detectives find person's fingerprints on a murder weapon, the chances are that that person is the one who used that murder weapon. However, it is possible that the person touched the murder weapon before or after the crime occurred. Only when the other possibilities can be excluded, will it become certain that the person committed the crime. Further, circumstantial evidence is rarely based on just one item (e.g., the fingerprints). In most cases, it is a complicated set of interwoven pieces that ultimately lead to a strong conclusion.

Historical research is another example of investigations conducted through indirect observations. For example, just a few years ago a two-hundred year-old-dispute over Thomas Jefferson's romantic relationship with his mulatto slave Sally Hemmings has been solved through DNA testing (Ellis 1998, 366). DNA testing is becoming common in both criminal and historical investigations, but the arsenal of methods is, of course, much greater than that. For years historians used "carbon dating" to estimate the age of many archeological findings. A less known but no less interesting method in historical research is pollen-analysis. It sounds unbelievable, but such method permits identifying patterns in vegetation, land use, forestry, and even the diet of people in a particular place going back thousands of years (Tipping 2000; Tipping et al 2001).

Theoretical constructs, on the other hand, "are used to explain the raw data we observe" (Capaldi 1987, 68). When, for example, Theodor Adorno talks about "authoritarian personality," he uses a construct that cannot be simply observed, but is invented to capture certain types of human personality (Adorno et al 1951). When some social scientists use the concept of "American exceptionalism," they create a construct intended to explain the presumed uniqueness of American culture. Or, when educators say that smaller classrooms are conducive to better learning, they also use a construct. Although theoretical constructs are abstract entities, they are still considered facts in the sense that they are based on raw data and an attempt can be made to verify them. Such verification can be conducted using **observations** or **experiments**. For example, observing and comparing public opinion indicators in the United States and other western democracies could verify the claim of "American exceptionalism" (for better or worse). On the other hand, an experiment can be conducted to verify the claim that smaller classrooms are conducive to better learning. Experiments (or quasi-experiments) constitute the main tool in scientific methodology. They can be defined as "a mode of observation that enables researchers to probe causal relationships" (Babbie 2002, 216). In this particular case, students would be divided into classes of different size (say, of 15 and 30 students), and then identical teaching methods by identical teachers would be used in all of them. After a period of time, the students would be tested to determine in which classroom learning was more successful.

Sometimes it is difficult to say whether something is **an observable fact or a theoretical construct**. Let's use this example. In one argumentation book the authors state this proposition: "College professors do not know how to teach" (Rybacki & Rybacki 2004, 168). The question now is: how this proposition can be verified? Can we directly see what "knowing to teach" is or another method to verify that statement is necessary? Are we able to observe what is "knowing to teach" or that concept is not directly observable fact, but a theoretical construct? One could argue that a visit to a classroom shows whether a person knows or doesn't know how to teach. After all, it could be said that one knows good (or bad) teaching when one sees it. Similarly, when in 1964 Supreme Court case Justice Potter Stewart tried to define what is obscenity, he said, "I shall not today attempt further to define the kinds of material I understand to be embraced . . . but I know it when I see it . . ." (Jacobellis v. Ohio 378 U.S. 184, 197). That is certainly an interesting approach and there is some truth to it, but one should attempt to find a method that is less subjective and more concrete.

The book from which we borrowed the proposition uses this indicator: "college professors do not have sufficient instruction in teaching techniques." But the question now is whether the two statements, "not knowing how to teach" and "not having sufficient instruction in teaching techniques," are equivalent. Although the relationship between one and the other is possible, it is not certain that they are close enough to use the latter for measuring the former. There is no reason to accept that the two statements above are equal or that the latter causes the former. Thus, we are still not much closer to any conclusion than we were at the beginning. The solution to the problem is to create a theoretical construct of what exactly "knowing how to teach" is. In other words, that theoretical construct is a theoretical definition (please review the section on definitions in the previous chapter). Once we have the definition, the next step is to prepare a set of indicators of the theory (operational definition). Finally, the indicators must be applied to individual cases (college professor) and then a conclusion can be reached based on the measurements.

Propositions of value

Where facts end and values begin is not always clear. The general principle that distinguishes factual propositions from evaluative propositions is the clarity of the predicate. When one says: "this is a table," the understanding of "is a table" is clear. Few people would dispute the definition of the word table: "a piece of furniture with a flat top and one or more legs, providing a level surface for eating, writing, or working at, playing games on, etc." However, when one says: "the table is big," we are getting into less certain territory. Yet again the understanding of the word "big" probably will be fairly clear to most people. Still, when we make one more step and say: "the table is beautiful," we encounter more problems. There is a fairly good chance to find a common understanding of the word "big," but less so in the case of the word "beautiful."

The point here is not about finding a clear-cut line between factual and evaluative propositions, but to understand that at a certain point (depending on circumstances and contexts) our statements cease to be clear without further explanation. **When we cross that line, the argument will not be based anymore on simple verification, but the evaluative statement will become a point of dispute in itself.** That is why we say that evaluative propositions require criteria or standards for that evaluative word. What is "beautiful?" What is "effective?" What is "moral?" When we say that Bobby Fischer was the greatest chess player ever, we engage in a value argument that can be accepted only when we agree on the criteria for what exactly is the meaning of being the best chess player ever. And that is not easy. One could say that Fischer was the most flamboyant chess player in modern times, maybe the most unpredictable, maybe even the best chess player in the seventies. But the best chess player ever? Many would agree, but many would rush to dispute that claim.

Many argue that answering such questions is of no great consequence, but the truth is that even the most seemingly insignificant value statements will find its way into other arguments, especially these in the realm of public and corporate policy. Although most government and corporate regulations are intended to be pragmatic, based on specific public or economic needs, they are also affected by ethical and esthetic values. **Values are at once criteria and goals for our behavior and our policies**. Take as an example the opening of an exhibit of Robert Mapplethorpe's photographic art in Cincinnati in 1991. Because of several rather controversial photographs, Mapplethorpe was accused of promoting obscenity. Since the exhibit was funded by the National Endowment for the Arts, some called for withdrawing government funds from this and other similar exhibitions. Some others went further demanding the outright elimination of the government-funded NEA (Demaline 2000). Obviously, there were differences on the question of what is "good art" and on the question of the role of government in funding arts. Without resolving these issues, it would be difficult to decide any government policy regarding arts. The National Endowment for the Arts survived that debate, but the issue continues to surface from time to time on some other occasions of controversial art.

In the early 2012 a dispute over health insurance coverage of contraceptives became one of the most debated topics, especially when fueled by Republican presidential contenders. It seemed that one was trying to upend the other with escalating extreme positions. Although political candidates often use certain controversies instrumentally, taking whatever position suits them, the matter was of importance to all. One question was: what is moral and what is not? And the second point was why morality of one group should be imposed on others? Why morality of certain groups should be imposed on their employees? All these leads us to the key question in propositions of value: what exactly are the criteria for what is right, wrong, good, bad, moral, immoral, etc?

How to approach arguments about values?

Propositions about values are argued in four basic steps:

1. **Stating** the claim/proposition.
2. **Establishing the criteria** for the evaluative component.
3. **Applying** the criteria.
4. **Verifying** whether the applied criteria correspond to facts.

Consider this argument: Franklin Delano Roosevelt was one of the greatest presidents in the U.S. history because he had a vision, was a realist, built a national consensus for his policies, and had credibility. The argument could be presented as follows:

1. Claim: FDR was one of the greatest presidents in U.S. history.

2. Criteria for greatness: Great presidents (1) have a vision, (2) are realists, (3) can build a national consensus for their policies, and (4) have credibility.

3. Applying the criteria to FDR: Is it true that FDR had a vision, was a realist, built a national consensus for his policies, and had credibility?

4. Verification: This last step requires an answer to the questions above. Can it be proven that, for example, FDR built a national consensus for his policies? This task is in the realm of propositions of fact and has been explained in an earlier section on that subject. Since in this particular case we are dealing with historical matters, the proof can be found in a variety of archival government documents, newspapers articles from that period, memoirs of people who lived during the times and were involved in politics, etc.

The main challenge in such arguments is not the verification point, of course, but agreeing on the criteria. The standards for "presidential greatness" presented here were adopted from a book *Hail to the Chief. The Making and Unmaking of American Presidents,* written by a well-known historian, Robert Dallek (1996). We could accept the criteria on the strength of professor Dallek's scholarship and prestige. Further, we could examine his detailed argument for these standards. Surely, one could challenge one or more items from the list. Perhaps an item could be eliminated, another modified, maybe one more added. In any case, the criteria seem to provide very reasonable standards for evaluating presidents. However, not all evaluations can be that straightforward. Not everything that we see as good, bad, great, mediocre, right or wrong can be described in simple terms. Often the underlying principles for a set of criteria are fiercely disputed. That is, for example, the case in ethical arguments: arguments on the question of the meaning of right and wrong.

Traditionally, most evaluative arguments were based on the prevailing moral values of a particular place. That moral consensus of communities was the basis for early laws. And since that morality was often based on religious beliefs, it was the religion that influenced laws. For example, in the Puritan colonies of early America, there was "no real distinction between sin and crime. The records are replete with punishments for fornication, idleness, Sabbath-breaking, and the like" (Friedman 2002, 76). That is not the case today. Laws, public or corporate policies rarely take into account specific religious preferences. Of course, individual communities even today use their own standards on a variety of matters, but that is permitted only as far as they would not violate the rights of others. Thus, a small town could deny a request for a permission to build an X-rated movie theater on the basis of "community standards." Presenting a value argument in that community would be fairly simple because there is certain consensus on what is good or bad, what is desirable and what is not. Often the consensus reaches beyond small communities. We can find the same ethical values in very diverse places, among Christians, Muslims, or non-believers. The principles are widely accepted and do not depend on the places where we find them.

But even if certain values could be considered universal, the question remains: why are they seen as universal? Is it only tradition, custom, or religion that provides that guidance? If so, how do we know that the tradition is right? The question is not new, of course. Plato had dealt with it already in the fourth century BCE. In the work titled *Eutyphro,* Plato asks: is something moral because it is loved by the gods, or is it loved by the gods because it is moral? For the Athenian philosopher, the standard cannot be based solely on authority, whether that authority is God, community, or tradition. But if not authority, then what? Throughout centuries there were many answers. For Plato the answer is that certain things are objectively good, certain actions objectively moral. His answer is the precursor of the philosophy of natural right. One of the most succinct representation of this philosophy are words of the 1776 "Declaration of Independence," stating that certain truths are self-evident.

If the values are objective and self-evident, there is no other choice but to follow them. This is the rule stated by German philosopher Immanuel Kant (1724-1804) and represents deontological or nonconsequentialist ethics: there is a duty to act according to the ethical principles. Such ethical principles, in turn, are based on rationality. For Kant they are not established by any empirical evidence or by reliance on supernatural being, but by logical reasoning. Just like 2 + 2 = 4 cannot be said to be sometimes wrong, lying cannot be said to be sometimes right. 2 + 2 = 4 is always true and lying is always wrong, according to Kant. He developed the *Categorical Imperative* to provide a method for rational discovery of what is right and what is wrong. An act is moral when it can become a universal rule for all human beings. Thus, a lie cannot be moral because no rational person would agree that lying should be a universal rule for human actions.

Deontological ethics work well at a general level. There are very few people who would reject such universal principles as "Do not lie," "Do not kill," "Do not steal." However, the disagreements begin when the principle must be applied to individual cases and when two principles are in conflict. As one author explains:

> Suppose… that not breaking a promise would result in someone's being seriously injured or even killed. According to Kant, we have to keep the promise, and because consequences do not matter, and innocent person would simply have to be hurt or killed. But which is, in fact, more important: keeping a promise, or preventing an innocent person from being injured or killed? (Thiroux 1998, 63)

These and other difficulties led other philosophers to take different paths. As it could be expected, the response to deontological ethics was provided by consequentialism, a theory that based the ethical judgment on the consequences of an act. There are several variations of this approach, but the best known is utilitarianism. One of the main proponents of this philosophy, Jeremy Bentham (1748-1832), embarked on the task of creating a legal code that was scientific and rational, one ultimately derived from the simple principle of maximizing happiness for the greatest number. That principle was the measure of right and wrong. Although not as simple and clear as Bentham intended, his principle judges human actions by the accomplished results. If an action brought benefits to the people affected by that action, it was a good thing, moral and appropriate.

Although there are many adherents of both approaches, the utilitarian philosophy is applied to value and policy arguments to a greater degree than other philosophical schools. That popularity results from much greater practicality of the utilitarian approach. I call the utilitarian method the **"value reduction" method**. It attempts to reduce complex values to more simple and practical criteria. Take for example a common practice among parents to teach their teen sons and daughters to restrain from early and frequent sexual relations. Most parents simply say that that behavior is wrong and that is how it is. No other explanation is given. It is presumed that there is some principle behind that claim, a principle that does not need an explanation. But such teaching is often ineffective. Teenagers don't necessarily agree with parents' moral beliefs, religion, or tradition. Thus, although parents may find teen sex immoral, their children could see such behavior as normal and perfectly acceptable (at least as long as it is honest and monogamous). However, the statement that something is "immoral" could be reformulated. Perhaps the matter is not so much about general moral rules, but specific consequences of an act. Although any romantic relationship has a potential to be beautiful, fulfilling, and satisfying, there are also certain risks involved in teen sex. One of them is the risk of being hurt psychologically. Another is the possibility of being infected with sexually transmitted diseases, becoming pregnant at early age, etc. Thus, a reasonable argument could be stated that although teen sex cannot be condemned as immoral in principle, there are potential risks that could deem such behavior wrong. That, of course, is no assurance that teenagers would actually agree with it anyway.

The utilitarian approach also suffers from serious shortcomings. Even if the consequences of an act can be clearly seen or anticipated, the question is: what types of consequences are preferable? What is that ultimate "greatest good"? What is that "happiness" that we desire? Is it only a simple pleasure? Many philosophers lament that people often choose the simpler things in life: money, entertainment, good food, pleasant time spent with family and friends. As far back as in Ancient Athens, Socrates admonished his compatriots for spending too much time making money, instead of attending to philosophy and arts. John Stuart Mill (1806-1873), defending utilitarianism, argued that there is more to happiness than simple pleasure and satisfaction. As he put it: "It is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied. And if the fool, or the pig, is of a different opinion, it is because they only know their own side of the question" (2002, 242). Despite Mill's authority on utilitarianism and the fact that many of us would agree with him, it is still not entirely clear how one could arrive at that particular conclusion. In other words, judging actions and policies by their "utility" could be a powerful tool, but it does not solve all problems inherent in value arguments. That leads us also to still another problem. Even if we can establish a set of desirable consequences of an action, sometimes they contradict each other.

Thus, the next question is: **Are some values "better" than others?** Are some more important and some less important? Are values in conflict with each other? Is there a tension between two or more competing values? It is easy to say that certain values are of paramount importance and should not be compromised, but often achieving one means diminishing another. Milton Rokeach, who wrote extensively on values from a psychological perspective, made a list of values guiding our lives (1968, 160). However, looking at the list we immediately see contradictions. Take as an example independence and obedience. By definition, the two are in conflict. True, both are desirable, but the more independence we assert, the less obedient we will be. In matters of public policy, one of the most serious problems is to reconcile societal needs for freedom and equality. Of course, a balance between the two can be maintained; most free societies deal with the problem fairly well. However, at least in principle, egalitarian policies usually infringe on individual freedoms and vice versa. Philosophers have struggled with that question for ages. Using Mill's words again: "What… is the rightful limit to the sovereignty of the individual over himself? Where does the authority of society begin? How much of human life should be assigned to individuality, and how much to society?" (2002, 77). And, naturally, the question is not theoretical only. It has very serious practical implications. For example, how to reconcile the rights of a farmer to his property with the rights of a community to build a road through that farm, the need to build hydroelectric power plant with the needs of protecting the environment, or the right of twenty-year-old to have a drink with the societal need to assure traffic safety? The same applies to the question of freedom of speech. In my course on communication law, my first task is to convince students that the key reason for certain restrictions on speech is not some arbitrary or political decision by the government (though we can eliminate the role of political influences), but the attempt to balance between different rights. For example, one person's freedom of speech is another person's invasion of privacy, or defamation, or it could interfere with national security. The balance is never easy.

This very short introduction to the questions of value is by necessity insufficient. And, probably, is also unsatisfactory. The key point is that no matter how much we elaborate on the subject, we won't be able to answer all questions and challenges. Each must be treated individually. Some are not that difficult and with careful considerations, we can easily establish criteria acceptable to many, for example when establishing criteria for employment, for a scholarship, or when ranking businesses or colleges. On the other hand, there are so many value arguments that will require very complex philosophical, ideological, and even religious analysis that in most cases will not persuade the audience anyway. Well, the final lesson and advice is that perhaps in some cases there is no reason to try to impose our values on others after all.

Key Terms

Verifiable propositions (facts)
Truth or probability of propositions
Observable facts
Direct observations
Indirect observations (circumstantial evidence)
Theoretical constructs
Experiment
Testimony
Values as criteria
Values as goals
Criteria and standards
Deontological (nonconsequentialist) ethics
Consequentialism (utilitarianism)
Classifying values

Study Questions

1. What are facts?
2. Explain the concept of experiment.
3. What is a theoretical construct?
4. Discuss reasons why indirect observations can be as reliable as direct observations.
5. List and explain the usual steps in the process of arguing propositions of value.
6. What is the difference between utilitarian and deontological ethics?
7. Are some values better than others?

Exercises

1. Everyone has "personal theories" about politics, relationships, business, etc. Think about your own "theories" (theoretical constructs). How do you verify them? By observations? Experiments?

2. Do you think you could be a good eyewitness? Can you describe any recent occurrence well enough for others to understand it (a conversation with your friend, an encounter with a salesperson in a store, a basketball game, etc.)?
3. Have you ever thought about the values that guide your behavior? Can you identify them? Talk to your friends about your and their experiences.

Argument Portfolio

Examine previously collected material and continue adding new pieces. After this chapter examine the arguments in your portfolio in regards to the question of propositions of facts and value. If an argument is factual, identify specific claims and the methods used to prove the claims. Are you convinced that the claims are true? If an argument is evaluative, identify the claims and the criteria used in the argument. What types of criteria are used? Are they ethical, aesthetic, or other?

4

Policy Arguments and Decision Making

In comparison to fact and value arguments, policy arguments are the most complex. This is not to say that the resolution of an argument regarding facts or values is always easier to reach than a resolution of a policy argument, but rather that the procedure in arguing policies is more extensive. In fact, policy arguments are a combination of propositions of fact and value. For example, when arguing that the airport security system should be improved, the arguer will have to explain first what the deficiencies of the present situation are. The person, then, will use evaluative arguments (e.g., that the present system is ineffective) and factual propositions (showing which specific operations fail to meet the criteria of effectiveness). After proposing specific improvements, the arguer will have to show that they are indeed improvements, that they are better than other options (including the existing policies). This, again, is a question of value further supported by evidence (facts). In other words, policy arguments cannot be argued without evaluative and factual claims.

How to approach policy arguments?

In the process of developing a policy (or making a decision) one has to begin with the following steps:

1. Identify the "problem" to be resolved.
2. Identify the underlying causes of the problem.
3. Identify the goals that need to be reached in order to solve the problem.
4. Identify (or invent) policies that would accomplish the goals.
5. Evaluate each policy in terms of its effectiveness in reaching the goals.
6. Select the 'best' policy.

These steps are tentative, open to further research and modifications. Each step is a debate in itself. For example, "identifying the underlying causes of the problem" requires making choices between competing options. Such questions as "How do we know that what we see as a cause is indeed a cause?" or "How do we know that there is only one cause?" or, "if there are several possible causes, which one is the most significant?" Only when we complete our own debate about the need and the direction of our policy, we can proceed with the actual argument. Now the steps are not tentative anymore and the audience should expect a strong and well supported argument.

Policy arguments go through the following steps

1. Arguing that there is a problem to be addressed and resolved.
2. Stating the underlying causes of the problem.
3. Stating the goals that should be reached in order to resolve the problem.
4. Stating the policy.
5. Arguing that the implementation of that policy will accomplish the desired goals.

Before engaging in a step-by-step description and analysis of the process, we need to emphasize two important points. First, when considering the above steps we will be almost constantly dealing with evaluations (thus: propositions of value). For example, the first argument that there is a problem is a value judgment. What constitutes a problem? What are the criteria/ standards? Second, the evaluations will depend a great deal on the public involved in the policy arguments. In policy analysis there is often a dispute between those who prefer a *stricte sensu* scientific argument and believe that such an argument is possible and those who argue that all policy arguments are political. The first group claims an objectivism of the outcomes; the other sees the outcomes as the result of democratic politics. Probably neither of the two is correct. Policy arguments are a little of both. In real situations, one must be ready for all kinds of political compromises and deals. However, here we look at the process mostly from **a rational perspective**. The assumption is that rational people can deal with rational arguments and that such arguments could lead to mutually accepted conclusions. Second, all is ultimately based on evidence (thus: propositions of fact).

Identifying Needs and Problems

A dictionary defines a problem as a 'difficult matter requiring a solution.' Almost every day we encounter difficult situations. Some matters are personal and some are community or national. The question is, at which point these difficult matters will be important or serious enough to convince us to search for solutions. What is it that turns certain issues into problems? Crime can generally be considered a problem. Murder, assault, theft, etc. hurt not only individuals but also a society as a whole. The same could be said about poverty, alcoholism, pollution, and many other similar issues. All, by definition, are difficult matters. Yet it is not that we always think about them in terms of solutions. That could be because we believe that there are already policies in place that are intended to deal with the situation. Or, perhaps we are ready to accept certain matters as tolerable and not worth our effort to eliminate them (e.g., a certain level of speeding, some minor cheating on taxes, etc.).

When looking at public and political debates, one can see how some issues have been 'simmering' for years until someone thought of them as a problem and how some others exploded suddenly and led to quick changes. Consider the case of tobacco and asbestos. Although the dangers of cigarette smoking have been known for a long time, more serious challenges to smoking have come in just the last two decades. Similarly with asbestos: while the evidence of the health hazards of asbestos had accumulated rapidly, few actions were taken to deal with the problem. To the contrary, although some steps were taken at the state level, Congressional support for the industry continued well into 1970s. Only in 1980 Congress took a decisive step to protect the public and the workers from the dangers of asbestos (Scheberle 1994). In other cases, a problem can come to the public's attention suddenly, without much warning. For example, the news that the Firestone tires used by Ford Motor Company were defective and could have caused numerous deadly accidents came rather unexpectedly (though there were some earlier signs of trouble). At other times it could be a crisis that brings certain problems to our attention (such as the September 11, 2001 terrorist attack, the Three Mile Island nuclear incident, etc.)

In this text we focus, obviously, on the rational process of defining a problem. That process seems rather straightforward. It could be assumed that if the usual indicators of a problem are proven, a reasonable audience will accept the conclusion. In real situations the matter is not that simple: "mismatches often exist between measures of the seriousness of a problem and the level of attention devoted to it" (Rochefort & Cobb 1993, 56). Many times what some reasonably claim to be a problem draws rather skeptical responses from the public or decision makers. Global warming is one example. Thus, it should not be assumed that arguing the problem is a routine matter. An extraordinary care must be taken in finding good reasons and good evidence to prove the existence of a problem. The process of identifying the problem is intended not only for the purpose of persuading others that the problem exists, but also for our own clear understanding of the situation. It must be remembered that problem identification is only the first step in finding solutions. Solutions, in turn, will be only as good as our understanding of the problem. Unfortunately, there are many "solutions" (policies) that are designed in response to public pressure without a clear understanding of the situation. Many in the United States think that the Patriot Act is a perfect example of a hurried and imperfect response to such pressures: a necessary but ultimately flawed legislation. In short, the process of problem identification must be done properly and carefully. The following is a general outline of how to proceed with the process.

Problem Description: Disparity

The question that must be answered first is "What is the situation that is perceived to be the problem?" That perception is usually the result of seeing a **disparity** between what is expected to be the norm and what is occurring. Although in many cases that can be fairly simple, in many others the norm itself can be disputed. An example of a rather simple matter is a general agreement about the optimal body weight of a person of a particular built and height. A small departure from the norm could be ignored, but a large disparity between the norm and the actual weight of a person must be considered a problem. Still, where is that dividing line between ignoring the matter and searching for a solution? Of course the example of being overweight or even obese is rather simple. Today health care professionals have well established guidelines to help us with such questions. But there are many other areas where dividing lines are not quite clear. For example, most large cities (maybe small cities, too) must deal with prostitution. Usually there are already many laws against prostitution and there is routine law enforcement, but prostitution thrives anyway. What has to happen to convince a local or state government to look for new solutions? Clearly, there is no exact method for determining where the 'breaking' point is. Almost anything can be claimed to be a deviation from the norm (whatever the norm is) and, consequently, a difficult matter. But there must be more. Showing disparity is only the starting point of an argument. Now it must be shown that the disparity is actually bad, that it has negative consequences. There must be harm.

Harm

Of course, by definition, any deviation from some accepted norm could be seen as inherently bad and, thus, undesirable. But why this is so? If, say, people were driving drunk, but nobody ever got killed or injured, we would not see this as a problem. As we have seen in the case of tobacco and asbestos, it took many years to convince lawmakers that serious health hazards are caused by these substances. Even today, some people feel that the negative effects of smoking (e.g., second-hand smoking) are exaggerated. Thus, the point is not to assume things, but to prove them.

Such behaviors as prostitution, excessive gambling, promiscuity, or infidelity are seen as immoral in almost all societies and it seems it would be foolish to dispute that. Still, for the sake of argument, let us ask: Is there any harm done by permitting prostitution to continue? Does anyone suffer? Does the society? There are many answers. Not all of them can be proven. Some are better than others. One could argue that prostitution is conducive to spreading sexually transmitted diseases, to violence or that it leads to abuse and exploitation of prostitutes. Further, it could be argued that prostitution has a negative impact on other people's relationships, that tolerating it gives the perception of social acceptance, which, in turn, could draw young women to try prostitution. At this stage, these claims are purely hypothetical. Many sound reasonable and probably are true, but they need to be proven.

The magnitude of the problem: how serious is the problem?

How serious is the problem? How serious are the consequences? If the consequences are minuscule, then perhaps there is no problem in the first place. If, on the other hand, the effects of certain behaviors or situations can be shown to be serious, then the question is: how serious is serious? For example, it is not that difficult to show that drunk driving poses problem on our streets and highways. Now the question is how widespread are the occurrences of drunk driving and drunk driving related accidents? If we knew that there are only a few drunk drivers on the road every year, we would not think much about it and we would not call for any special new regulations.

Now we are encountering a new difficulty: how many is enough to consider something to be serious? How many is too many? About 11,000 drivers die in drunk-driving related accidents every year. Is this a large number? Of course. But then again, when compared with almost 170,000,000 licensed drivers in the country, the percentage is very small. On the other hand, the 11,000 fatal accidents are about 32% of all fatal motor vehicle accidents (33,808 people died in traffic crashes in 2009 in the United States). 32% is a large number. One out of every three fatal accidents is alcohol related. Naturally, it could be argued that the entire discussion is not necessary. After all, even one person dying because of drunk drivers should be considered a problem. The point, however, is that the problem must be seen in the context of the proposed policies. As we will see later, each policy will have certain costs. The question, thus, is: are these costs worth the benefits of a policy? It may sound unfortunate and even cruel, but in many cases we would not introduce new regulations and policies just because one person dies in a drunk driving related accident. We would assume that certain accidents are unavoidable and no policy is necessary to try to prevent them.

The same applies to the earlier examples. Certain level of being overweight is not alarming and can be tolerated, but the heavier the person gets, the mores serious are the health consequences and an intervention required. Prostitution is illegal in most places but often tolerated at a reasonable level. However, when the streets become overrun by prostitutes and other related crime like drugs or violence increases, local law enforcement will take action.

Duration and trends: How persistent is the problem? Is it stable, increasing, or declining?

Sometimes it is not so much the magnitude of a problem but its persistence. Take a common cold as an example. We all get it at one time or another and we all know that it will pass in a few days. But, occasionally, the normal few days of a common cold turn into a week, maybe even two. Obviously, the usual over-the-counter remedies are not enough and a visit to a doctor will follow. The same applies to everything else. Occasional slight increases in crime rate, highway accidents, or homelessness are usually not a cause for alarm. Fluctuations of this kind often happen. In most cases they will be corrected with help of the existing laws, regulations, or social programs without much additional effort. Yet if the situation persists, the problem becomes more significant. In such situations it will become clear that the existing policies are insufficient to deal with the continuing problem.

Another question that appears is the one about the direction of the changes. Sometimes the problem continues to grow, sometimes it stabilizes at certain level and becomes the new norm, and sometimes there is a decreasing trend. When the problem is growing rapidly, there is much greater urgency to address it. When the problem is decreasing, the argument in favor of proposing a new policy is much more difficult. The audiences and decision-makers tend to be more skeptical about new regulations when the old ones seem to work well. For example, U.S pollution caused by motor vehicles began growing rather quickly with the increased popularity of an automobile in the 1940s and 1950s. At first the response was slow in coming, but the worsening situation eventually led to strict environmental regulations in the late 1960 and in 1970s. Once the government began imposing stricter environmental rules, their effects could be seen quickly. Since then it began decreasing rapidly and by the year 2000 it dropped to the level of late 1940s (Lomborg 2001, 169). A similar situation was observed in the death rate resulting from motor vehicle accidents. Although a great deal of progress was accomplished by better and safer cars, government policies also contributed to positive changes. Some of the regulations also led to safer cars (seat belts laws, air bags, etc.). Thus, in 1970 the rate was 26.8 deaths, in 2000 15.7 deaths per 100,000, and in 2009 only 11 deaths (NHTSA 2012).

Of course, all problems are complex matters, often entangled in a web of interactions that are difficult to decipher. One must be very careful with conclusions that are based on simple trends. It is very likely that a particular case will be more complex than it looks. Recognizing that something is growing or declining is often just the first step in further analysis of a particular problem.

The Scope

This question refers to the matter whether the problem is widespread or limited to certain areas. The 'areas' may have geographical meaning but it could refer to the extent that a particular problem affects the entire or a part of the society (e.g., young people, older people, whites, blacks, etc.). For example, since the number of car accidents is larger among young drivers, many new laws targeted that group of drivers. Something similar is happening on the other side of the age spectrum. The motor vehicle laws for older drivers are often somewhat stricter (depending on the state). The AIDS epidemic continues to be a serious health problem in the United States and, of course, anyone is at risk of infection. However, the risks are much higher in some groups, for example prostitutes or drug users. Thus, many new policies target these specific groups. Of course, judging the magnitude of a problem because of its range (especially in reference to various populations) is a delicate matter. This type of argument may lend itself to all sorts of manipulations, emotional and motivational appeals, prejudices, etc.

Problem Causation

It is in our nature to look for the causes of things. This observation did not escape Aristotle's attention. He wrote in 350 BCE: "Men do not think they know a thing till they have grasped the 'why' of it (which is to grasp its primary causes)" (2004). Knowing the causes of a problem is often the same as having a solution. If the causes could be easily removed, the problem will disappear as well. Naturally, we know that the matter is not that simple. Neither finding the real causes nor removing them is always possible. Sometimes one is easy but the other elusive; sometimes it is the other way around. The question of causation is a question of culpability. Who is at fault? Whom should we blame? Some argumentation texts use specifically the term 'blame' instead of causes. However, the term 'blame' is value-laden and implies an intentional action. Thus, it is preferable to use the more general term *causation*.

Although finding causes of the problem is intended as one of the steps in making a strong case for the proposed policy, agreeing on the causes could constitute a debate in itself. As one political scientist suggests, that process resembles "a great tug of war between political actors asserting competing causal theories" (Stone 1989, 293). In other words, the process is by no means simple. The competing explanations will often depend on person's worldview, moral outlook, political ideology, or even personal experience. As always in the argumentation process, we can count on certain objectivity of our findings, but there should be no disappointment if an agreement cannot be reached in some situations. For better understanding of this section, a student should review the chapter on reasoning (especially the causal reasoning part) and chapter on arguing values.

The first step in finding factors that are most likely to cause a particular situation (problem) is to prepare an inventory of all likely causes. For example, when looking for possible causes of low-test scores of public schools' students, we could list:

(1) poorly prepared teachers,
(2) insufficient curriculum,
(3) insufficient facilities,
(4) low pay for teachers,
(5) lack of parental involvement, etc.

Now a decision must be made which of the five is the most significant cause, the one whose elimination would improve public education. Although the idea is that the main cause should be identified, in many situations, including this one, all factors play an important role. Of course, some will be more important and some of less significance, but addressing even the "less important," one could lead to some improvements in the situation that we see as a problem. Further, we know that often there is not one but a combination of causes that lead to a particular problem. In a situation in which it cannot be said that only one factor plays the crucial role, a decision must be made whether to opt for a comprehensive solution addressing most potential causes or for a solution that would address only one area of the matter. In most cases, for practical reasons, it will be the latter. Especially in classroom debates it would be difficult, if not impossible, to argue a policy covering all or most aspects of a large problem. Also, it is possible to select a cause that clearly is of secondary importance. In such cases, the intention is to address only a small part of the problem with the realization that although the changes are desirable and could make a difference, the effect on the overall problem will be minor. In any case, the choice can be made only when there is a clear understanding of the causes of the problem.

Let us say we identified "poorly prepared teachers" as the most significant cause of low-test scores. Although this may look like the end of the process, it is not enough to say that to solve the problem of low test-scores in public schools, we need better teachers. When we say that one of the major causes of low test scores in our schools is the quality of teaching, i.e., poorly prepared teachers, we invite another question: Why do we have "poorly prepared teachers"? To design a policy that would give us better teachers, we must understand why we don't have good teachers now. In other words, what seemed to be a cause of larger problem now can be considered a problem in itself. Thus, the new question is: What are the causes of that situation? At this point we would engage in another exercise in making an inventory of causes; this time for the problem of ill prepared teachers. One could suggest two causes: low requirements for admission to credential programs and low standards in these programs. Now, if the two are the main causes, the solution could lie in improving the general standards of the credential programs.

The entire process looks easy enough. In an ideal situation, one should be able to identify factors that are the true causes of a particular situation or phenomena. That is usually possible in exact sciences, engineering, to a lesser degree in biology and medical disciplines, but evaluating social problems is very elusive. The difficulties in finding the true causes of a social problem are compounded by common disputes about the nature of the causes. Do they derive from the structure of the society or from individual preferences, beliefs, and psychological dispositions? In other words, are they **structural** or **attitudinal**? Or, perhaps they are beyond our control altogether? If the nature of the causes is believed to be structural, we will look into historical, cultural, or institutional context. If it is attitudinal, we will look at personal attributes, e.g., the leadership ability, hard work, but also carelessness, laziness, etc. Finally, if the answer is that neither of the above categories explains the causes, they could be considered **accidental**, e.g., caused by earthquakes, weather, machine defects, etc.

Inventing and finding solutions

Policy arguments are rational attempts to reach certain objectives, to accomplish goals. Obviously, the general objective is to solve a problem, to eliminate or reduce the harms caused by a particular situation that is seen as a problem. The question is: How to accomplish that? One of the earliest decisions to be made is whether we should target the symptoms or the causes of the problem. James Madison in *The Federalist No. 10* put it perfectly when describing how to deal with the problem of political factions: "There are two methods of curing the mischief… the one, by removing its causes; the other, by controlling its effects." Sometimes both methods are possible and both are effective, sometimes one is better than the other, and sometimes only one is possible. If, for example, a city is plagued by widespread cases of graffiti painted on public buildings, park benches, and road signs, one method to deal with it is to remove the causes of such hooliganism. However, even if the causes could be identified, e.g., the presence of competing street gangs in the area, they are probably not easy to eliminate. Especially that in such case another question arises: what causes the presence of gangs? Is it poverty, is it lack of employment, is it high incidence of dysfunctional families, or perhaps still something else? Naturally, an attempt could be made to deal with the causes, but another solution with more immediate results is needed. That other solution would deal with, as Madison said, "controlling the effects." In the case of graffiti that would mean removing the graffiti as soon as it is reported.

Whether the goal is to eliminate the causes or only the symptoms, the next question is, what are the measures that would accomplish that. Since there is rarely a problem that would not be addressed in some ways already, it is of utmost importance to list and review all existing policies. As one author stated, "Policy is more like an endless game of Monopoly than a sewing machine repair… The action we commonly call "new policies" are really somebody's next move" (Stone 1988, 208). Certain solutions surely have been tried and their effectiveness evaluated. Much can be learned from the successes and failures of others. Sometimes our own solutions can be built on the existing approaches. Other times the old policies could be rejected altogether in favor of something entirely different. Whether we modify the existing policies or invent new ones, it is very likely that we will consider more than one option. Although there are situations in which there seems to be only one option and that option is indeed the only one, it is a good practice to think about other possibilities as well, especially that often it is difficult to say what is the best solution without evaluating it first.

Once an inventory of possible and reasonable solutions is made, all available options must be evaluated individually and in comparison with each other to determine which of them would be the best solution for a given problem. For example, say we see the problem as an increase in the number of car accidents in a residential area of our city. It has been determined that speeding is the main cause of the accidents. Thus, the goal is to reduce the speed of vehicles driving through the neighborhood. Now the question is how to do it. One option to accomplish that goal is posting signs of reduced speed. But the existing speed limit is already low and it seems that it is not the limit that is too high, but that the drivers simply do not adhere to it. Thus, this becomes a question of enforcement. How to enforce the speed limit? This could be done by increasing the number of patrol cars in the area, by installing video cameras, or by placing speed bumps on the street. All three must be examined and the best option must be selected. Of course, there is always the fourth option: to combine all three together. However, since the costs must be taken into account, in most actual cases there are not enough resources to approve and implement a comprehensive "catch-it-all" policy.

Although sometimes the selection can be done quickly, usually the final policy is a result of a great deal of work. The entire process can be guided by a series of questions that need to be answered to assure that the chosen policy is indeed workable and the most effective. The questions asked during the selection process are the same that will be argued later in the actual policy presentation or a policy debate. The difference is that in the selection process we conduct our own debate over the values and benefits of several possible options, while in the policy presentation, we have enough information to argue that one of the alternatives, the policy we are proposing, is the best option and that it should be adopted.

Proposing a policy

Once a policy is selected from available options, it must be presented. Some policies are technical and require detailed description. Many others are a matter of a general rule that can be stated as a single sentence. In any case, all requirements for phrasing a proposition should be met. For example, the policy proposition should be stated in a full and declarative sentence, it should be definite, and it should present a single idea. Often a simple statement like "Gay marriages should be legal in California" is sufficient. It is obvious as to the meaning of "gay," "marriage," "gay marriage," "legal" and "making something legal." The policy means that gay marriages should be treated the same as any other marriage allowed by the existing state laws. However, the case could be complicated if the person proposing that policy has different ideas about gay marriages; say, he would like to have various limitations for gay marriages. That scenario is very unlikely, but to avoid any misunderstandings, a few more words explaining **the mechanism of the policy** would help. For example: "Gay marriages should be recognized under the existing marriage laws. All specific state regulations applicable to marriage should be applicable to gay marriages. There should be no differences between the two." Similarly, if one wants to argue, "Marijuana should be legalized," it would be helpful to specify the mechanisms of the proposed policy. This can be done quickly by adding: "all marijuana products should be regulated by laws applicable to tobacco products." That would mean that marijuana could be sold as cigarettes and other similar tobacco products, but also controlled the same way, e.g., no sales to minors, no smoking in public places, no advertisement, etc.

Policies that are more technical in character require, obviously, more detailed explanation. If, for example, one proposes a policy to reduce automobile pollution, it is not enough to say that, well, "automobile pollution should be reduced." Now the question is how to do it. There are many options and one must be selected. It could be a new regulation requiring car manufacturers to sell a certain number of electric cars or perhaps new exhaust standards. In either case, the requirements should be specific.

Is the policy feasible and workable?

Do the means exist to solve the problem? Is the policy feasible and workable? Is the policy affordable? The questions seem simple enough. Yet, it happens often that a policy that one hopes for is not quite easy to find or design. We would wish that people would be more honest, that they would not procrastinate, and would eat healthy, but is there any reasonable way to accomplish that? It is not clear if any policy would have an immediate effect on these behaviors. On the other hand, there are many policies that seem to be easy to find, but are difficult or impossible to implement. For example, in an attempt to reduce pollution caused by automobiles we could require car manufacturers to make only electric cars. Is such policy workable? Even if the cost of such policy could be accepted, the policy would not work for a simple reason that electric cars are still not comparable with the traditional cars; they don't have the same capabilities. In other words, the technology is not available or is not adequate to our needs. The question of technology is very common nowadays. We got accustomed to the "magic" of modern science, engineering, pharmacology and medicine so much that often we simply can't understand why some things remain unresolved.

Of course, often from a technical point of view a solution is possible, but is not quite affordable. That is the question of the affordability of a policy. Of course, not all decision- and policy-making involves the question of affordability. Many decisions don't involve any significant cost. A family decision to vacation in France instead of Italy would not make much financial difference. A government's regulation prohibiting smoking within 10 yards of public buildings, or allowing guy marriages, or limiting speed limit would not cost much. However, in many more cases the answer may "make or break" a policy: there are many interesting and promising policies, but their costs are prohibitive. There are three important matters that must be taken into account. One is rather simple: determining whether the policy is financially possible. Second, even if there are sufficient resources to pay for a proposed policy, it must be shown that the benefits of our policy are large enough to justify the costs. Finally, our policy is among many others that are competing for the available funds. In such cases, it must be shown that our policy is not only worth the costs, but that either the benefits are greater than the benefits of other policies, the costs are lower, or perhaps our policy is altogether superior to other alternatives.

Is the policy enforceable?

How to compel people to act certain way? How can it be assured that the desired behavior will be achieved? That is usually accomplished with incentives. As Professor Levitt writes, "The typical economist believes the world has not yet invented a problem that he cannot fix if given a free hand to design the proper incentive scheme. His solution… may involve coercion or exorbitant penalties… but the original problem, rest assured, will be fixed" (Levitt and Dubner 2005, 20). In addition to coercion and penalties (negative incentives), there are also rewards (positive incentives) and persuasion.

Coercion

The most straightforward method of enforcement is coercion: a penalty for not adhering to a policy. Criminal law is a set of rules enforced by various penalties, from a traffic citation, other fines, and jail term (and in some cases even death penalty). The laws are enforced by permanent or periodical monitoring of behavior. Thus, the building code is enforced in all cases by inspecting construction work and withholding occupancy permit until all is done according to the code. Speed limit on city streets is enforced by police officers only from time to time, in many cases at random. That is often sufficient because the threat of traffic fines alone is enough to make a policy work. But such enforcement is not always effective. This depends on a number of factors. Sometimes policies are perceived as unreasonable or unfair and people don't have additional ethical incentives to follow them. Sometimes policies are impractical. Sometimes expensive. And sometimes the law enforcement presence is simply insufficient.

Rewards

Coercion is not the only method to bring the desired changes in behavior. Another option is to offer rewards for certain behavior. For example, a person cannot be forced to buy a house, but a large reward in the form of a tax deduction could be attractive enough to persuade many to make that purchase; a law permitting hybrid cars to use carpool lanes may add another few thousand in sales; and substantial financial aid to a country may convince it to dismantle its nuclear weapons program.

In theory everything could be bought at the right price, but the question is whether the behavior we will get from people is worth the price we are paying. We don't even need to go to hypothetical cases. The existing or past policies can be questioned, too. For example, was it worth to have "cash for clunkers" policy? In this program government paid between $3,500 and $4,500 for an old vehicle when a person purchased new and more fuel efficient one. According to various estimates, the sales generated approximately $8 billion in car purchases versus approx. $3 billion spent by the government. Clearly there was benefit. However, the question is how many buyers would have bought a new car anyway without the credit. Also, how many people took advantage of the credit buying cars that they can barely afford? On the other hand, there was a benefit to the environment since new cars are polluting less than the old ones. Economists will argue the exact costs and benefits for years.

Arguments / Persuasive Appeals / Public Relations Campaigns

In addition to the proverbial "carrot and stick" methods, one may use rational arguments or motivational appeals to change people's behavior. Such methods are less certain, but sometimes there is no other option available. For example, it is widely accepted that parents' involvement with children education contributes to better learning. Most parents, obviously, try their best to help children, but some don't. How to convince them to spend these extra few hours a week to help with homework, etc? Punishment is not quite appropriate and rewards could be expensive. The only option is to try to persuade parents—for example, by sending some publications explaining benefits of such behavior, by advertisement in the media, by a telephone call made by a teacher, etc. Although it is not clear how such persuasive campaign would work, it could have some impact. Sometimes such campaigns are in addition to other methods. In the fight against tobacco smoking we use all kinds of methods: prohibition of smoking in certain areas, additional tax on purchases of cigarettes, some rewards in the form of, say, reduced insurance premiums, ban on television ads for cigarettes, anti-smoking lectures in schools, and anti-smoking advertisements.

Cost-benefit analysis

Cost benefits analysis in its original and narrow sense is a quantitative economic method of comparing the actual monetary costs and benefits of a particular policy. "Its essence is deceptively simple: One adds the costs of a program, then its benefits. Next, costs are subtracted from benefits. If several options are being considered, the one with the greatest net benefit should be selected" (Heineman et al 1990, 45). The strength of the cost-benefits analysis lies in the fact that it attempts to judge values of policies and things by using a single criterion. However, it is also its greatest weakness. The challenge of such cost-benefits analysis always rested in its ability to reduce other factors to monetary figures.

Although originally applied to actual expenditures of physical projects, with time cost-benefits, analysts began applying monetary gains/losses to matters that are not easily translated into economic terms. Education is one of them. How much $1 investment in some kind of an educational project would bring in return? This requires a complex econometric modeling and still may not be that convincing. It also leads to some strange estimates—e.g., a car company may decide not to install a safety device that costs $100 per car because it is known (statistically speaking) that the device could prevent death or serious injuries of only 5-10 drivers annually. Each accident will cost the company (in lawsuits and settlements) $1 million for a total of $5 to $10 million. Even though the number seems very high, it is much lower than installing the device in 200,000 cars for a total of $20 million.

The unfortunate matter is that often proposed policies are clearly beneficial but lead to high costs. For example, requiring public schools to reduce the class size in the first three grades means an automatic jump in spending for schools. No one denies the value of such policy, but many argue that it is simply too expensive. The same applies to a similar policy that requires a reduction in the patients to a nurse ratio in hospitals. In the latter case, the cost is not incurred by the government (maybe partially when the government subsidizes hospitals), but by the hospitals themselves. Consider another example. In 2004, Illinois' Governor Rod Blagojevich developed a plan to send one book a month to every child in the state until the child enters kindergarten. The plan was intended to improve poor reading skills of Illinois' children. It would cost about $26 million a year. Do you think that there are good reasons to believe that the money will be well spent? Would the plan work? Is it worth to spend $26 million to try that idea? Illinois legislators didn't think so and rejected the plan. Would you agree with them or with the Governor? (Levitt and Dubner 2005, Keilman 2004)

Of course, not everything needs or can be measured by "cold cash." The benefits can be often measured by somewhat more elusive factors. For example, some argue that our intervention in Iraq based on incorrect intelligence lowered our credibility. On the other hand, these who supported the war argued that the fact that we did act increased our credibility as a power that will act when necessary. Either way, the measurement here (and a point of contention) is the question of credibility.

Does the policy have unintended effects?

With every decision we make, we affect things that we intended to influence and these that we did not. In solving problems in one place, we could create some other problems somewhere else. That is, of course, not always the case, but in a complex web of social and personal interactions, touching that delicate tread in one place often means a ripple effect in many others. Obviously, constant worries about some unintended consequences of our actions would paralyze our life. Yet, a careful look at such possibilities should be a part of decision- and policy-making.

Already when looking at costs and benefits of a policy, we did consider one form of "unintended effects," the costs of a policy. For example, a policy reducing patient-nurse ratio could be costly and, as a consequence, in extreme cases it could lead even to closing hospitals. Sometimes such consequences are less visible, sometimes will be discovered long after a policy is implemented. Let's consider this situation. Many local law enforcement leaders vehemently oppose any participation of their police officers in immigration matters. In other words, they don't want local police to check, verify, or report immigration status of anyone who comes in contact with the police. Many people find this strange. Many believe that with the cooperation between the local law enforcement and the immigration officers, illegal immigration could be substantially reduced. What then is the reasoning of the people who oppose such cooperation? Although they would agree that in principle such cooperation is desirable, they are afraid that it would affect local policy ability to do their main work of crime fighting. Many people would be afraid to report crime, to seek help, to volunteer as witnesses, etc. Many others would be an easy target of unscrupulous landlords, business owners, employers, and even gang members. Of course, the fact that unintended effects exist doesn't have to disqualify a policy. An argument can be made that the policy is necessary and, using the language of costs benefits analysis again, the benefits justify the costs.

Sometimes the consequences can be seen many years later after a policy was made. For example, some claim that American support for the Afghan mujahedeen fighting the Soviets in the 1980s led to serious "unintended consequences." One analyst writes: "The ultimate result of this U.S. approach of course was the rise of the Taliban, their alliance with al Qaeda and the events of September 11, 2001" (Lieven 2004, x). But there are many questions that are not easy to answer. Was it possible to predict such consequences? Was the initial benefit of fighting (and as some would say ultimately defeating) communism larger than the costs?

And sometimes, unintended consequences happen immediately after a new policy is implemented. Take a look at two examples. Strengthening immigration rules after September 11, 2001, led to a dramatic drop in enrollment of foreign studies at American universities. The introduction of The No Child Left Behind Act with its "high stakes" tests that intend to measure not only student learning, but also performance of schools, led to many cases of cheating among teachers. "From Boston to Florida to California, school districts have been investigating claims that educators are providing students with answers, changing answers after the test is over, and giving students extra time" (Axtman 2005).

The question of *Should* versus *Would*

In the real policy arguments, often happens that an argument is advanced or withdrawn on the basis of its chances of being approved by the decision makers. For example, Congressional leaders often postpone a debate and a vote on a particular bill because they are certain that the bill would not get enough votes. In private matters, we also judge whether or not our friends, partners, or parents would agree with us and if convinced they would not, we just don't ask. All this is reasonable. Why spend time and effort if it is fairly clear that we won't succeed. Estimating our chances for success is a part of decision- and policy-making.

However, the fact that something would not be accepted by the public, by Congress, or any other decision-making body cannot serve as an argument for or against a policy. What must be argued is the merit of a policy, not its popularity. This applies especially to refutations. It is very common that one of the debaters simply dismisses the arguments of the opponent and says: "the policy won't pass anyway." Maybe it will and maybe it won't, but that is not the point. The question is whether or not the policy is good, bad, desirable, beneficial, costly, etc. Thus, instead of saying "it will not pass," one could say: "the school does not have enough funds," "the policy is not workable," etc.

Key terms

Policy arguments
Decision making
Steps in developing a policy (or making a decision)
Steps in arguing a policy
Identifying needs and problems
Problem description: disparity
Harm
The magnitude of the problem: how serious is the problem?
Duration and trends
Problem causation
Causes: structural, attitudinal, and accidental
Inventing and finding solutions
Targeting the symptoms or the causes of the problem
Proposing a policy
Is the policy feasible and workable?
Is the policy enforceable?
Cost-benefit analysis
Does the policy have unintended effects?
The question of *Should* versus *Would*

Study Questions

1. What are the basic steps in showing that a problem exists?
2. Explain the concept of *harm*?
3. Explain the concept of *problem causation*.
4. What is the difference between structural and attitudinal causes?
5. What are the usual steps in developing and arguing policy?
6. What are the key questions in evaluating a policy?
7. Explain "cost-benefit" analysis.

Exercises

1. Examine everyday objects (your desk, car, pen, bed, street, traffic lights, etc.). Can you find anything in them that could be

improved (at least minimally)? Is that improvement practical and worth the cost?

2. Apply cost-benefit analysis to your recent decisions (e.g., selecting a college, buying a car, choosing vacation place).
3. Every year Congress and state legislatures pass a large number of new laws. They are all intended to respond to needs and problems. Examine one of them. Do you agree that the problem indeed exists? What do you think about the effectiveness of the solution?
4. Watch one of the Sunday morning political talk shows on television. Listen carefully to the presented argument. Evaluate one of them.

Argument Portfolio

Begin with finding in your portfolio an argument that can be classified as policy. What is the policy? Identify the main proposition (claim). If the claim is not entirely clear, rewrite it. What is the structure of the argument? Can you identify the problem part? Is the problem serious? What are the reasons to believe that the problem is serious? Does the policy respond to the problem (need)? Are the solutions reasonable? Do you believe that the author made a strong case for the policy? Use additional questions from the textbook to examine the argument

5

Refutation

Arguments are rarely (if ever) individual cases that would not respond to a previous argument or that would not elicit a response. To the contrary, individual arguments are almost always responding to earlier arguments. Such responses, in turn, lead to further arguments. In that sense, almost every argument contains some elements of **refutation**. Refuting means **proving a person or statement to be wrong**. In other words, refutation is an attempt to prove that the opposing claims, the evidence, and the reasoning are false. In formal academic or parliamentary debates, the rules of refutation and rebuttal are very specific and clearly designed. However, they are mainly procedural. Here we will focus on the main principles of refutation (or rebuttal; the two can be used interchangeably).

In the earlier chapter on rules of a debate, we discussed the concept of burden of proof and the requirement of establishing prima facie case. A person who is challenging the existing beliefs or truths (the status quo) has the burden of proving that the status quo is incorrect or false. The person is required to establish prima facie case: "such as will prevail until contradicted and overcome by other evidence" (Black's Law Dictionary 1990, 1189). If the person succeeds, his or her position now becomes the new status quo. The burden of proof shifts. If one wants to challenge the new position (new status quo), now that person is required to establish a prima facie case, a case strong enough to overcome the status quo. Sometimes the new burden of proof is called **burden of refutation.** Although practically they refer to the same requirement, each name indicates somewhat different approach to that new argument. To illustrate the difference, let us return to the example presented in an earlier chapter.

A person is tried for drunk driving. The prosecutor establishes prima facie case, a case strong enough to prove beyond reasonable doubt that the defendant was driving drunk. Although initially the defendant didn't have any obligation to defend himself (he was innocent until proven guilty), in the new situation there is a new presumption: at this point of the trial, the jurors are convinced that the defendant is guilty. Now the burden of proof (or burden of refutation) is on the defendant. That proof can be established in two ways. First, if possible, a case could be made that the prosecution is wrong and that the defendant was not driving drunk. The second approach (the more common one) is to show that the prosecution case is not strong enough to accept the claim that the defendant was driving drunk. Maybe the defendant was indeed drunk, but we can't be sure based on the case presented by the prosecution. For example, since the case rested mostly on the test of alcohol level in blood, perhaps it could be shown that the blood sample taken from the defendant was mislabeled or misplaced before the actual tests were performed. That would not necessarily prove that the defendant is innocent, but that the prosecution's evidence cannot be trusted. Using legal terminology, a reasonable doubt would be created. In the first scenario it was proven that the defendant is innocent, in the second scenario, the strength of the prosecution's case was put in doubt. In the legal system, finding faults in the prosecution's case is usually sufficient to prevail, and it is not necessary to prove someone's innocence.

The same would apply to any other argument. A policy speech: "Carpool lanes should be eliminated from California freeways," can be refuted by (1) showing that the carpool lanes are so effective that they should remain on California freeways, or (2) showing that the argument against the carpool lanes is weak. The first approach is very strong and, obviously, would be the ultimate refutation, but is not necessary. The second approach should be sufficient. As in the legal system, a "reasonable doubt" has been created. If the argument against carpool lanes is weak, there is no reason to defend carpool lanes. The opponents simply did not establish prima facie case. However, the concept of "reasonable doubt" may not apply to situations outside of the courtroom. For example, a politician accused of corruption could be acquitted in the courtroom because the evidence against him was weak (there was a reasonable doubt), but that victory may not be sufficient for the general public. The perception of wrongdoing or unethical behavior could remain, and to clear the suspicions, the politician would have to do much more to show his innocence.

Strategizing refutation

Just as there are many ways to arrange an argument, there are many ways to attack it. Every time this text stated that certain steps must be taken in building an argument, the text was also suggesting points of refutation. Showing that the author of an argument failed to take certain necessary steps means refuting the author's argument. For example, policy arguments usually begin with establishing the existence of a problem. Thus, a refutation of a policy argument could focus entirely on that particular area. If it could be shown that the problem does not exist, this would mean that no solution is necessary. Or, if the problem indeed cannot be denied, then the effectiveness of the solutions must be attacked. This would also suggest that although for each advanced claim there can be a counter claim, there rarely is a need to actually counter all claims of the opponent. That is unnecessary and uneconomical. Further, in most real arguments there is not enough time to poke at every aspect of the opponent's argument. A strategic decision must be made as to where to attack. Comparing debate to war may not appeal to everyone, but there is something similar in these two endeavors.

When looking for the best way to approach refutation, imagine your opponent's argument as a bridge that must be destroyed in order to win a battle. By stopping transport across a river you will stop the opposing army. The bridge stands on several pillars. Each pillar represents an important support for the argument. Like arguments, bridges collapse without sufficient support. Some have just barely enough support to stand and some others have more than is needed. There are bridges that could be destroyed by removing just one pillar, and there are others that may require more than that. Still, there is never any need to defeat every point of support. In most cases the arguments and the bridges will fold when just one key point is destroyed. Your task is to find that point (or points) and destroy them. This is especially important when you don't have the luxury of time and resources to try all possible points of refutation. To use the same analogy once more, if you have only five dynamite sticks, you don't put one under each pillar, but concentrate all five under the one that is most likely to fall.

How to find that weakest point? There is no magic formula to do so. The only solution to this question is to carefully analyze the opponent's argument. Such analysis requires a great deal of research and excellent knowledge of the subject. The basic tasks are:

(1) finding the main claim, the thesis of the argument;
(2) finding the reasons supporting the thesis;
(3) identifying the reasoning underlying the argument;
(4) identifying supporting evidence.

Once these elements are clear, one must proceed with evaluation. During that process, some points will appear stronger and some weaker. Although it is desirable to analyze all of them, for practical reasons the weaker ones always warrant closer attention. At the same time it must be noted that not everything that appears unconvincing is actually weak. Sometimes only a comprehensive analysis will bring us to the points that eventually will be the focus of our refutation.

That initial analysis is fairly simple when the evaluated argument is available to us in its entirety—for example, when we reply to an essay published in a newspaper or to a report issued by an agency. That is not always the case. In oral debates most often only the main claim—the thesis statement—is known. We know what the position of our opponent is, but we don't know how he or she will argue that position. In such cases, the opposing arguments must be identified, reconstructed, anticipated or even guessed before points of refutation can be determined. The question is: what possible reasons would support a given claim. As the Roman rhetorician Quintilian observed, "the schemes of his adversaries should be no less known to the orator than those of an enemy to a commander in the field" (in Golden et al 1976, 69). Of course, in this scenario, even if we discover the points that could be used, we will never be certain what reasons will be actually used by the opponent. Still, in most cases, two persons working independently on an argument are very likely to develop similar reasons supporting the claim. For example, in arguments against death penalty there are usually four, maybe five key claims: (1) that capital punishment is unethical (cruel, unusual), (2) that capital punishment does not deter crime, (3) that innocent people are (or could be) executed, (4) that capital punishment is costly, and (5) that capital punishment disproportionally affects minorities. Thus, when preparing refutation without knowing specifics of the other person's argument, one must be ready to respond to any of the above points.

The points of refutation

The points where an argument can be questioned are the same where argument was made. Let us look at some of the questions that could be helpful when preparing a refutation.

Propositions of policy

When preparing a refutation of propositions of policy, we need to examine the following:

1. Is there a problem? Is there harm? How serious is the harm?
2. Are the causes of the problem identified correctly?
3. Is the policy addressing the problem?
4. Is the policy eliminating the causes or the effects of the problem?
5. Is the policy workable, affordable, and/or enforceable?
6. Does the policy solve the problem? What is the effectiveness of the policy?
7. Are there any unintended negative effects of the policy?

Propositions of value

Value claims can be advanced as separate arguments or as a part of policy arguments. In any case the key point in propositions of value is **the question of criteria**. And, obviously, that is also the key point in refutation of propositions of value. For example, it could be argued that the criteria are incorrect, unreasonable, unclear, or based on specific ideological or philosophical views that are accepted by some people only. One of the most common value claims used in policy arguments is "effectiveness:" How effective is the policy? Although in some cases effectiveness is easy to define, in many others there could be a dispute over the criteria used to define that word for specific policies.

Naturally, a proposition of value can be also questioned in another area even when the criteria are clear. And that is the question of applying the criteria. In an earlier example, I said that historians argue that FDR was one of the greatest presidents in the U.S. history because he had a vision, was a realist, built a national consensus for his policies, etc. Vision, realism, and consensus serve here as criteria for presidential greatness.

They seem reasonable and don't have to be disputed. The point of refutation could be different: the verification of the statement that FDR actually meets the criteria. For example, was he really able to build national consensus? That verification process is, of course, the question of propositions and arguments of facts.

Propositions of fact

Factual claims are the basic component of all arguments. Thus, they are also used in policy arguments and in value arguments. For example, as stated in the previous section, even if we agree with the criteria used for presidential greatness, we still need to verify whether or not the facts fit the criteria. The same could be applied to mentioned earlier "effectiveness" of a policy. Even if the criteria are accepted, it still must be proven that the policy meets the criteria. If the effectiveness is measured, say, by the reduction of a dropout rate in college (a specific percentage could be used here), the question remains whether such a goal was actually reached and whether the change can be attributed to the policy or perhaps is a result of some other factors.

Refuting propositions of fact is to show that the facts are not true or that the evidence is insufficient to conclude that a statement is true or probable. Refutation of proposition of fact focuses entirely on the **questions of evidence**. Is the evidence sufficient? Is the evidence correct? Is the evidence obtained from reliable sources?

Reasoning process

In addition to specific issues relevant to the three different types of propositions, a refutation could target the cogency of reasoning. Chapters on reasoning and fallacies explain the basic requirements of good reasoning and also show possible pitfalls in the reasoning process. Sometimes arguments look reasonable and even convincing, but the underlying reasoning is faulty. Identifying such faults and other weaknesses is, of course, another good way to show that the entire argument is questionable.

Key Terms

Refutation
Burden of proof
Burden of refutation
Analyzing arguments
Strategizing refutation
Refuting factual, evaluative, or policy arguments
Refuting reasoning and evidence

Study Questions

1. What is the difference between burden of proof and burden of refutation?
2. Explain the analogy between refuting an argument and blowing-up a bridge.
3. What are the usual points of refutation?

Exercises

1. Look again at the Exercise No. 4 from the previous chapter (analyzing arguments on Sunday morning television talk shows). Imagine that you are on the program responding to one of the guests. How would you refute his or her argument?
2. Find any of your argumentative essays or speeches from your past classes. Write a refutation.

Argument Portfolio

Using material from your previous Argument Portfolio exercises, decide which points in each argument are most vulnerable to counterarguments. Explain your decision. Also, explain why the remaining points are strong.

6

Evidence

All parts of an argument are indispensable and there is no reason to argue which part is the most important. However, if one insisted on making that choice, evidence would be the prime candidate for such distinction. Evidence is the foundation from which we build the entire structure. No matter how perfect is the argument, if it starts with bad, misleading, incorrect, or insufficient evidence, it will fail; like a building that cannot stand on unstable ground or faulty fundaments. That meaning is expressed in one definition of evidence: "ground for belief or disbelief; data on which to base proof or to establish truth or falsehood" (Collins English Dictionary 2010).

Arguments without evidence often look convincing, but there is no assurance that they are true. They are like a bridge that is still standing, but in danger of collapsing. You cross it at your own risk. Maybe you will be lucky and get to the other side, but maybe not. Such arguments are guesses that could be true, but they could be false. And even if a conclusion of a particular argument indeed is true, we don't have to accept that conclusion without evidence. The need for evidence is proportional to the importance of the conclusions we reach. The more consequential the conclusions are, the greater the need for evidence. Like that bridge. The higher and longer the bridge is, the greater the risk of injuries or death if the bridge collapses. Thus, the greater the need to know it is safe. As many times before, here we can also reach for examples from the judicial system. In principle, a person cannot be convicted of a crime without evidence. The prosecution has the burden of proof and that proof can be met only by evidence; what's more, the standard for the evidence is very high: beyond a reasonable doubt (at least in criminal law). However, when a minor traffic violation is at stake, the judge is not quite interested in a long list of witnesses or other evidence; often the police officer's testimony is sufficient. But in a case where someone's freedom or life is at stake, the trial will last as long as necessary to present all available evidence. And there are places where the standards can be even stricter than these in the courtroom—for example in scientific research, trials for new drugs, or complex engineering projects. The question is: what exactly is that level of evidence that will be sufficient to accept an argument?

Arguments are series of claims supported by other claims. At each turn we accept a claim because it was supported earlier by other claims. And the earlier claims were supported still by other claims. The general idea is that every time we assert something, we must be able to support that assertion. This situation is similar to what a logician Alfred Tarski calls an **Infinite Regress**:

> When one tries to explain the meaning of an expression, one uses, of necessity, other expressions; and in order to explain, in turn, the meaning of these expressions, without entering into a vicious circle, one has to resort to further expressions again, and so on… The situation is quite analogous as far as the justification of the asserted statements of the science is concerned; for, in order to establish the validity of a statement, it is necessary to refer back to other statements, and this leads again to an infinite regress (Tarski 1995, 117-118).

Little children have a perfect way to illuminate the concept. They keep asking questions without an end. "It looks like it's going to rain," one says in the presence of a child not anticipating the coming trouble of the Infinite Regress. "Why is it going to rain?" child asks. "Because the clouds are heavy and dark," we respond. "But why do heavy and dark clouds mean rain?" comes the next question. "The color indicates possible condensation of…" "What is condensation?" "What is water vapor?" "What is this and what is that?" A never-ending story. When this happens to us we either patiently answer the questions or dismiss them as an annoying "kids talk." In any case—we treat children as children. It is rare that we reflect on a deeper meaning of such process. And yes, there is more to it than just kids being kids. Since children know very little, they demand answers. And we are expected to provide the answers. We should treat all audiences the same way. Although adult audiences, and especially those that are prepared for our argument, are more knowledgeable than children, we should be ready to answer any question or doubt they have—even if we don't think any question will be ever asked. Perhaps the expression “the worst case scenario” sounds grim and pessimistic, but yes, we have to be prepared for the most skeptical and the most demanding audiences, for the worst case scenario.

The Infinite Regress: What to prove? Where to stop?

Here is an interesting excerpt from the “The Adventures of Sherlock Holmes” to help in illustrating the point. In the story the famous detective examines a hat that was left in Holmes’ house by a potential client. That hat is the only thing that could lead Holmes to the man who left in a hurry without waiting for the detective. Holmes’ friend Dr. Watson asks:

> “Then, what clue could you have as to his identity?”
>
> “Only as much as we can deduce.”
>
> “From his hat?”
>
> “Precisely.”
>
> ”But you are joking. What can you gather from this old battered felt? […] I can see nothing…”
>
> “On the contrary, Watson, you can see everything. You fail, however, to reason from what you see. You are too timid in drawing your inferences.”
>
> […]
>
> “…That the man was highly intellectual is of course obvious upon the face of it, and also that he was fairly well-to-do within the last three years, although he has now fallen upon evil days…”
>
> […]
>
> “…How did you deduce that this man was intellectual?’
>
> For answer Holmes clapped the hat upon his head. It came right over the forehead and settled upon the bridge of his nose. “It is a question of cubic capacity,” said he; “a man with so large a brain must have something in it” (Doyle 1992, 246-247).

Let’s look at the chain of statements from Sherlock Holmes once more.

The claim made by Holmes is: “The man was highly intellectual”
Why? “It is a question of cubic capacity.”
The hat is large.

Large hat is for a large head.
A large head has a large brain.
"A man with so large a brain must have something in it."
A man with a large brain is highly intelligent.

The argument begins with one piece of evidence: the actual object, the hat. Holmes tries the hat and notices that the hat is too big for him. But that is not enough to prove that the hat is big. This is merely proof that the hat is too big for Holmes. We need to know whether Holmes' head is of average size. Of course that is assumed in the story. Still, one could insist on more concrete evidence. What exactly is considered to be small, medium, or large? Perhaps the hat had a size marked on the hat's label. Or, if there is no label, the hat should be simply measured. Only then the size could be compared with what is considered the standard size for men's hats, which is 7 and 3/8 (one could insist on evidence for that number, too). If that number is correct and the hat from Holmes' story is, say, 8 inches, then clearly the hat is very large.

But the challenges don't end here. The question of the hat size was the easiest. The next question is how do we know that the size of the hat indicates the size of the head? Obviously, it would be rather strange to wear a hat so huge that it falls on person's nose and ears, but there is a possibility, rather unlikely, but still a possibility that the owner of the hat has some unusual requirements. After all, we don't know the person. For example, he could be injured and wearing a bandage around his head, which would require, temporarily, a larger hat. Or, maybe he has thick hair, an "afro" hairstyle, or perhaps there is still another reason for the larger size of the hat. Of course, these possibilities are very unusual and probably it would be safe to say that, after all, the unknown visitor has a large head. Still, we must remember that our conclusion is still only probable, no matter how high that probability is.

The next question is whether the size of the head is a good indicator of the size of person's brain? Again, it seems logical that one is related to the other, but without evidence we will never be sure of it. What type of evidence we need here? The best one would come from scientific studies measuring the relationship of the two. Let's say we find such evidence. Thus, at this stage we know that the hat is very large and (with some minor doubts) we know that a large hat means a large head, which, in turn, means a large brain.

Now we come to the key point in Holmes' argument: the connection between the size of the brain and intelligence. All else will fall apart without evidence for his last claim: "A man with so large a brain must have something in it." Is it really true? I don't intend to provide here a definitive answer to that question, but will quote from an article in *Scientific American* magazine:

New scientific studies across several animal species, including humans, are challenging the notion that brain size alone is a measure of intelligence. Rather, scientists now argue, it is a brain's underlying organization and molecular activity at its synapses (the communication junctions between neurons through which nerve impulses pass) that dictate intelligence (Sukel 2009).

The article is a good start to find the actual studies on the subject and end the argument one way or another.

As we can see, at every turn, each of the statements needs to be supported. If we wanted to demand further evidence, we would have to begin questioning the studies reported in the *Scientific American* article. How do we know what we know? What methods are used in the studies? How accurate and reliable is the raw data? And on and on. The key point is clear: all statements in an argument must be reasonably supported. But that would mean a truly infinite regress, a never-ending process with constant questioning of the next statement. That is not very practical and is not necessary. The process of a constant questioning of everything must be interrupted. Not all statements need the same level of evidence. The question is: which assumption or statement can be accepted without a proof while the next one will require supporting evidence? That will depend on variety of factors: the strength of overall evidence, the level of general acceptance of certain assumptions, audience's knowledge on the subject, the importance of the assumption for other parts of the argument, and even practical needs. Generally it should be assumed that the audience is skeptical and will not accept an argument without detailed evidence. Audience's skepticism should never be thought of as an affront or a burden. To the contrary, it should be expected and considered a challenge. In other words, if in error, one should err on the side of caution and be prepared to have evidence for more than will eventually be required.

Types of evidence

One definition states that evidence is "the available facts, circumstances, etc… indicating whether or not a thing is true or valid" (Oxford American Dictionary). Thus, anything that would show that our assertions are true (or at least highly probable) could be considered to be within the realm of evidence. It could be that hat from Sherlock Holmes' story. It could be a scientific study proving that brain size is related to intelligence. It could be an observation. Anything. Let's begin with a simple example: "Residents of Norway are very wealthy." One possible standard for evaluating the wealth of country's residents is that country's GDP per capita. This is not a perfect measurement, but a common way of evaluating wealth of countries and their people. Now, the statement that has to be supported is: "Norway has very high GDP per capita." Since measuring a country's GDP is beyond our ability, at this point we have to rely on someone else's data. Each country has its own government institutions to perform that task. Further, private banks and international organizations often monitor such measurements and verify their accuracy. Among such institutions is the United Nations. According to their Statistics Division, Norway's GDP per capita in 2010 was $78,674 (United Nations Statistics Division 2011). When compared with other countries (for example, the number for the U.S. is $44,782), Norwegians are not only very wealthy but indeed some of the richest people in the world. Thus, as long as we can trust UN Statistics Division and accept their numbers as true, we have proved the proposition: "Residents of Norway are very wealthy." To make sure that the numbers are reliable, we could compare them with the numbers from other sources—for example, the World Bank and the International Monetary Fund. Although they are different, the differences are minimal and of no consequence. Further, we could make any necessary adjustments for purchasing power parity, which takes into account the cost of living in each country. A dollar in one country is not equal to the same dollar in another country. Because the cost of living in Norway is high, after adjustment, the number drops to about $60,000 per capita, but that is still one of the highest in the world.

The statistics, at least in this case, are probably the best and the most straightforward, and easily available method to support the proposition. But, say, the argument is very informal and occurs in a situation where no specific statistical data is available. Perhaps the statement that "Norwegians are wealthy" was made by our guest from Norway explaining the standard of living in her country. We know her as a trustworthy and honest person. She says: everyone I know has a nice house and a nice car, everyone is well dressed, and everyone has plenty of money for good living and good entertainment. And she adds: I am a good example of people in Norway. I am rich and comfortable. In this case we rely on her testimony, her account of how things are in Norway and also on one example, her own, presumably applicable to many people in Norway.

In short, we have a variety of statements supporting the claim that Norwegians are wealthy:

1. Norway's GDP per capita is $78,674.
2. Everyone I know in Norway has a nice house and a nice car.
3. Everyone is well dressed.
4. Everyone has plenty of money for good living and good entertainment.

The statistics are reliable, and our guest's testimony based on her observations and her own example are less exact and slightly less reliable, but still strong evidence. The problem here is not so much with the reliability of our guest, but the possibility that no matter how honest she is, her observations may be biased or may not represent all people in Norway. That leads us to key division in evidence: **facts and opinions.** Factual evidence includes statements that are verifiable, statements that can be said to be true or false. Opinions refer to statements that either are not verifiable by factual evidence or cannot be verified at that particular time. Thus, opinions are defined as unproven beliefs. The number for the GDP in Norway is a fact. The description of our guest's material possessions is also a fact. However, her perception of other people in Norway is her opinion. Of course we know that she is correct, but that is only because we already know that Norway is a wealthy country. If we didn't have any other evidence except her words, our conclusions regarding the wealth of Norway would not be very strong. Imagine for a moment that our guest is from Haiti, one of the poorest countries in the world. What would you think if she said: everyone I know in Haiti has a nice house and a nice car, everyone is well dressed, and everyone has plenty of money for good living and good entertainment? We would think she is either lying or she lives in some strange world of wealthy Haitians amidst the poverty we know. In short, in both cases we judge the evidence by our existing knowledge (or sometimes our stereotypes). Of course, in many, maybe even most cases, opinions are not far away from facts. However, we can never be sure that is the case.

Factual Evidence

Most arguments ultimately rest on the questions of fact. Did something happen? Does it exist? How far is Albuquerque from Santa Fe, New Mexico? How many bills did President Reagan veto? How many children in the U.S. die from congenital anomalies? Who won the battle at Hastings in 1066? What is the salary of elementary school teachers in Los Angeles? One may say, for example, that teachers' entry-level salary in Los Angeles school district is higher than the same level salary in San Diego school district. That statement can be easily verified as long as the actual entry-level salary in both districts is known. That, in turn, can be determined by "observing" the payroll in Los Angeles and San Diego schools or by observing payroll checks of two individuals just hired by the two districts at the exactly same level.

Basic facts as these shown above could be all that we need in an argument, but sometimes they are just one step in a process; they are necessary to determine further facts. When we can prove a fact that is not directly observable through facts that are observable, we use what is known as **circumstantial evidence**. For example, in many murder cases, there is no direct evidence of the time of death of the victim. There are no witnesses and there is no video recording. In such cases, forensic experts and police officers use body temperature to determine the time of death. The rule of thumb is that every hour after death body temperature decreases by 1.5°F. Thus, "observing" a drop of body temperature by 6°F would indicate the fact that the person died four hours earlier (naturally, there are other factors that could affect body temperature and such measurements are not always exact). Of course, this is an extremely simple example of circumstantial evidence. In most cases, such evidence consists of much larger number of observations that when taken together lead to new conclusions. You will find more examples in the section on propositions of fact.

Again, even if the evidence is obtained indirectly, it still refers to a straightforward fact. Much more complicated are facts that are known as theoretical constructs (please read again the section on propositions of fact). In that case, the question is not about something that can be seen, but about certain relationships between things. For example, in economics the *law of demand* states that, "as the price of a good falls, the quantity demanded will increase" (Casler 1992, 226). We can't really see that theory, but we can see individual components of it. By observing cases of price decrease and comparing them with the level of sales, we can determine whether or not a relationship between the two exists. Now the relationship, if it exists, becomes a fact. Further, to make things more certain, we could design **an experiment** to test the theory. An experiment would be very similar to simple observations of individual elements of the theory (price and demand), but it would add greater control to the test. Other factors that could influence the results would be controlled or even eliminated.

Opinions

Opinions, by definition, are not the best or the most reliable evidence. Opinions are unproven beliefs. They could be highly probable, but they could be totally false, as well. They are not facts, they are simply beliefs of people who may or may not know much about the subject. Of course, in an ideal situation factual evidence is preferable, but arguments are rarely ideal. In many cases we must reach a conclusion in cases of uncertainty, when factual evidence is lacking. Often opinions are the only things we have.

Opinions vary from highly probable, that could be easily equated with facts, to completely false. For example, a detective who concludes that a victim's car has been driven recently because the car's engine is still warm gives his opinion about the connection between the temperature of the engine and the length of time that passed since the car stopped. Just to know that the car has been driven in the last 20-30 minutes could be sufficient to solve the crime. Thus, such conclusion/opinion is as good as a fact. However, in many cases detectives and prosecutors need to be much more precise. They would need forensic experts measuring the exact temperature, examine the engine, the type of a car, perhaps tires, and much more to be as factual as possible about the exact time when the car stopped.

Other types of opinions are these that are based on extensive knowledge on the subject, but are still inconclusive. For example, politicians and economist have been arguing for decades whether or not the increases in minimum wage are slowing down employment among the young. It seems that even the experts are divided on the subject, thus leaving the conclusions in the realm of opinions. And then we often hear opinions of another kind, such as: "This politician is crooked," "The L.A. Clippers will never win a championship," "O. J. Simpson did it." Although they could be based on at least some real evidence and there is the possibility that the statements are true, they cannot be accepted as such until additional evidence can be found.

Specific Instances (Examples) and Statistics

These two items are not necessarily anything different from facts and opinions. Still, they deserve a separate treatment because a great deal of evidence is presented in the form of examples or statistics. Individual examples or statistics can be factual or based on opinions. In 2008 and 2009 several cases of sudden unexplained acceleration of some Toyota or Lexus cars were reported. Each new case was given as an example of some problems with the cars, from the pedal to floor mats and electronic system. When the numbers accumulated, the examples became statistics. Now the talk was not about one, two, or three examples, but about a pattern of serious problems with Toyota engineering, more specifically the electronic throttle control systems in the cars. However, a 10—month investigation conducted by the National Highway Traffic Safety Administration (NHTSA) found no fault with the automaker's electronics. The acceleration was caused by improperly installed floor mats, sticky pedals, and driver error (Valdes-Dapena 2011, NHTSA-NASA Study of Unintended Acceleration in Toyota Vehicles 2011). In addition, as we learned later, several cases were simply hoaxes. In short, many examples of unexplained acceleration were actually easily explained by driver error. They were examples of acceleration but not necessarily unexplained acceleration. Others attributed the problem to the wrong cause. And some were accurate examples of floor mats stuck under the pedal.

I placed examples and statistics together because although they are very different, they are closely connected. As stated above, when examples accumulate they become statistics. Specific instance (an example) is an individual thing that is believed to represent a whole category of things, events, observations, theories, etc. Statistics, on the other hand, shows the probability of that example being really representative. Thus, if one argues that, say, people nowadays don't stay together anymore and supports that claim with examples of three couples (neighbors, cousins, friends, etc.) who recently have divorced, the three examples are intended to suggest a pattern. The problem with specific instances is that they are just individual cases and it is difficult to establish whether any pattern actually exists. They could have a great persuasive value, but do not provide a conclusive evidence. An example of something existing or occurring is not foolproof evidence, but a good illustration that if something happened once, perhaps it does happen more often. Still, individual examples are not always sufficient. They could be unusual and rare occurrences. The main question here is whether or not the examples are typical and a part of a larger pattern.

Of course, sometimes one single example could be very powerful. If someone argues against the death penalty and shows a specific case of an execution of an innocent person, the gravity of the situation is sufficient to prove the point that there is a problem with the system (assuming the evidence was accurate). Similarly, September 11, 2001 terrorist attacks are examples of a situation that was considered so serious that it was simply assumed that the attacks were signs of a larger pattern. Yet, logically speaking, these examples alone do not prove that there was a danger of future attacks. Of course, because of the gravity of the situation, politicians and policy makers simply did not want to wait to see whether another example would follow.

Individual examples are much more powerful as evidence when it is shown that they form a pattern—in other words, that there are many examples indicating the same thing or occurrence. For example, knowing that our neighbor is having a problem with his new car is not good enough to say that there is a wider problem with that automobile model. True, even one case could be a sign of possible problems, but it could be also just this "one in a million" case. On the other hand, when a consumer organization examines 10,000 cars of this model and finds out that 5% of them experience problems during the first year, one could conclude that the probability of having problems with the model is 5%. Still, that number alone is not very helpful because we don't know if 5% is a usual level of problems or if it is rather high. To understand the five percent better, we would need to know what is the usual percentage for the entire industry and if we are considering specific models, what the percentages are for other models. Thus, if the industry wide level of problems for one-year-old car is, for example, only 2 percent, we should be alarmed with the 5 percent for that particular model.

What have been described above are the basic characteristics of **the field of statistics**: collecting examples, organizing them, and showing that they form patterns. The part of statistics that deals with collecting numbers and a simple accounting of "what is" is known as **descriptive statistics**; the part that interprets the results and draws conclusions is known as **inferential statistics**. In the above example, collecting data on cars and showing the percentage of repairs for individual models and the entire industry belongs to descriptive statistics. Comparing the data and drawing conclusions that one model is more reliable than another belongs to inferential statistics.

Statistics, as a collection of all kinds of data and as a method, is a powerful tool in research. But many are weary of statistics and its indiscriminate use. Statistics are collected for everything nowadays. As a writer and humorist Bill Bryson (2000) noted: "Consider this intriguing fact: Almost 50,000 people in the United States are injured each year by pencils, pens, and other desk accessories. How do they do it?… In 1992… more than 400,000… were injured by chairs, sofas, and sofa beds. What are we make of this?… More people were injured by sound-recording equipment (46,022) than by skateboards (44,068)." These numbers are interesting and even funny, but what is exactly the meaning of it? How were they collected? What is the meaning of injuries? Were they determined by physicians or self-reported? Are they serious to the point that something should be done about the source of these injuries? Even widely accepted measurements can be questionable. Earlier I used the GDP (Gross Domestic Product) per capita as a good measurement of country's wealth. Clearly, GDP is a widely used and generally reliable, but not without problems. As the weekly *Economist* writes: "using official statistics can be like comparing apples with pears, because of differences in the way that GDP is measured in different countries. For example, American statisticians count firms' spending on computer software as investment, so it contributes to GDP. In Europe it is generally counted as a current expense and so is excluded from the final output. As a result, the surge in software spending has inflated America's growth relative to Europe's" (2004, 66).

Naturally there are many other examples, whether one talks about measuring productivity, unemployment, infant mortality, etc. This is not to say that all such indicators are worthless, but that they need to be taken with much more skepticism. Take another example. Sociologist Stephanie Coontz writes: "Child abuse reports increased by 225 percent between

1976 and 1987. Does this represent an actual increase in rates of abuse or a heightened consciousness about the problem? During the same period, parents' self-report about very severe violence toward their children declined 47 percent. Does this represent a real improvement in their behavior or a decreasing willingness to admit such acts?" (1992, 17)

When evaluating statistics, there are several important questions that need to be asked.

How the statistics have been collected? Are the data accurate? Although professional organizations that collect data have strict procedures to assure accuracy, there are many statistics of somewhat lesser pedigree.

Is the sample representative to the group that is being measured? If the statistics refer to, say, college students, the sample should be taken from the population of college students. Second, in such case, it would be important to specify the type of colleges or college students we measure. Community college? Four year university? Graduate students? etc. Finally, for serious statistical studies, the sample should be taken at random. Random sample assures that each member of the population under consideration has the same chance of being selected. Only a random sample can assure accuracy of the statistics. Unfortunately, there are many statistics that use "convenience sample," a sample of people who were the easiest to reach regardless whether or not they really represent the entire population.

Are the units compared indeed comparable? Sometimes we see a dramatic report that, for example, millions of people around the world live on $10 a day, giving us a picture of extreme poverty. Here, in the United States we simply cannot imagine living on $10 a day. That would be impossible. Clearly, by any measurement ten dollars is very little everywhere, but the differences are not as large as they seem. In some places around the world the cost of living is so low that the amount could be sufficient to have a modest living.

Are the issues under consideration quantifiable? Can we quantify love, happiness, satisfaction?

Are the data and/or conclusions based on the data statistically significant? Here the question is of statistical methods used. This is a technical matter and can be established only when applying statistical methods. "Statistically significant" means that the results of statistical calculations are not likely to have occurred by chance alone.

Testimony

Testimony is a demonstration or a report on existing evidence, e.g., observations, experiments, opinions, etc. For example, it is very unlikely that audiences and arguers in a debate would be able to observe and understand an experiment conducted by a group of scientists. The experiment, its design, results, and significance would have to be reported to the parties in question. Such a report will be called testimony.

Testimony is not so much an actual evidence of whether something is true, desirable, probable, etc., but rather a method of delivering evidence. As stated previously, it is rare and very unlikely that the arguers and their audience will be able to personally verify each piece of evidence that is being introduced. That is either impossible because something already happened without their presence or is impractical because it would be time consuming and costly. For example, in a criminal trial the jurors cannot go back in time and observe the crime in progress. They must rely on someone reporting what happened. They could, on the other hand, participate in, say, a ballistic examination of the gun found on the defendant. That, in turn, is burdensome and costly. Instead the jurors will rely on an explanation of the findings by an expert who conducted the tests. In other words, almost every piece of evidence presented in a debate is in the form of a testimony. Even observations and opinions of the arguers can be called testimony if they cannot be verified independently by the audience (or the jurors in a trial).

Most of our evidence will derive from articles, books, and reports written by other people whom we believe to be knowledgeable and trustworthy. However, even if we rely on others to provide evidence for us, it is important to know how they obtained that information: how do they know that what they are reporting to us is true? What if they just made up some numbers and some stories?

Evidence as critical thinking

Knowing what is true and false, distinguishing between facts and opinions, and verifying statistics is not always easy. Very often one has to settle on the question “whom to believe?” That’s the subject of the next section below. However, getting the answer to the question of whom to believe can be much easier if one understands at least basic principles of how we know what we know. In that sense, evidence is part of critical thinking. It is not a mechanical collection of some data that seem to support our statements, but a constant evaluation whether the data is actually true and whether the search was conducted properly. For example, there is a great deal of material pretending to be based on scientific research. In most cases the problem can be detected by examining the credibility of the source of the material. But those who hide their agenda behind made-up scientific research are often very good at creating believable cover. For an untrained eye, these sources could look credible. Thus, it helps to understand the basic of scientific method. What are the variables used in the study? What are the measurements? What is the sample? Is it random? And much more.

In short, read all material carefully and thoroughly. Identify findings and conclusions. Review the research, its methodology, data, all evidence and sources of evidence, and take a look at the references / bibliography used by the author. Compare with other similar material. Be vigilant and skeptical; even more skeptical about material that actually agrees with your side of the controversy.

Evaluating Sources of Evidence: Whom to Believe?

One could argue that the author or the publisher of a particular material is irrelevant. After all, one of the key points of argumentation and critical thinking is to evaluate arguments on their merit, on reasoning and evidence, and not on the trustworthiness of the author. That is true but only if we were able to evaluate all statements, arguments, and evidence. Unfortunately, even with the greatest skills and vigilance, that is not always possible, and sooner or later we will have to trust and believe someone. There is nothing easier nowadays than finding information on any subject. In addition to the traditional places like libraries, daily and weekly papers, and the broadcast news, now we have the Internet. Of course, a large part of the Internet is utilized by the same sources that we still can get from the libraries, but there is so much more that the libraries could never even dream of collecting and storing. For example, with a few clicks of the mouse we can now access data from most government agencies in the U.S. and most other countries or from some little obscure newspapers in faraway places that we didn’t even know existed. Small groups, organizations, and individuals who in the past could not afford to publish their own papers or reports can now place them on the Internet for millions to see. It has been argued that this broad access to new sources of information will increase our knowledge and broaden our awareness of the world. The potential is there, of course, but this new variety of resources brings also unexpected problems. Especially with the wealth of information, more and more often a question appears: whom to trust? Who is telling us the truth? Who is careful enough in collecting and presenting the data?

There are several ways to test the evidence, and the following questions are intended to help you with the task. Not all questions will be equally important for all of your sources and some may not be important at all, but it is advisable that you at least consider them in evaluating your own research. Very often we won't know the importance of a particular test of evidence until we ask a question.

Identifying the author and the publisher of the source

Before asking further questions, we have to be clear who is the author and/or publisher of the source we want to use. The word author indicates an individual, a group of individuals, or an organization (private, non-profit, government, business, etc.) responsible for the content of the material. Publisher (also an individual or organization) is simply disseminating the material. In the traditional sense, for example in book publishing, the relationship between the author and the publisher is usually limited to a business transaction and the publisher is not responsible for the content of the publication. Still, publishers with reputation for disseminating only quality material, provide at least some assurance that the source we use is also of good quality. In other cases, for example newspapers and magazines, the publisher is as much responsible for the content as the author. Even more, the publisher often controls the content. Finally, often the author and the publisher are the same.

Sometimes the identification is a simple task, the author is listed clearly and the publisher is well known. Other times, in extreme cases and usually in an Internet search, the author is not listed and the publisher is difficult to identify. In such cases, the information, no matter how interesting and helpful, cannot be used without knowing its origins. Of course, sometimes the suspect material, even if it cannot be used, can provide us with an idea what to look for in further research. Sometimes even a gossip can lead to eventual discovery of an interesting fact. Once we know the author and/or publisher, we ask more questions.

Is the source primary or secondary?

Primary sources refer to the information obtained 'first hand' without interference or help of intermediaries. Seeing a movie is getting your own knowledge and impression of the movie "first hand," while reading a critic's description or a review of the movie is getting the information from a secondary source. A serious biographer, for example, will try to get as close as possible to the subject of his book. Interviewing the person, reading his or her memoirs, letters, etc. will constitute using primary sources. But there are also many biographies that have been written using only secondary sources, books written by others.

Generally, the primary sources are considered better, more likely to be genuine, accurate, untainted by interpretations and feelings of others. Still, that determination cannot be automatic. Many secondary sources are made of very careful examination and comparison of primary sources. For example, it is true that nothing replaces seeing a movie personally, but a good review can give us a good image of the movie, plus it can bring to our attention things that normally would be missed. The same is with witnesses to a particular event (say, crime). Very often they are irreplaceable, but also very often their observations are very limited, narrow, and sometimes even inaccurate. So, again, although the primary sources are usually preferable to secondary sources, further examination of both needs to be conducted.

Evaluate the source's background: Is the source reliable and honest?

This surely seems as the basic question. If we cannot trust the source, the information provided will be always questionable. And once we consider a person or an institution trustworthy, we tend to accept its messages without any special verification. Of course, occasionally good sources are inaccurate and misleading, and the usually bad sources may, from time to time, report correct information. Although sometimes we encounter a person, a newspaper, a book, etc. that is new and its reliability unknown, in most other cases we will be aware of a source's reputation and track record. For example, mainstream dailies and weeklies are generally reliable in collecting and reporting the news. True, there are occasional mishaps and occasional sensationalism, but on average they are trustworthy. The same would apply to individual journalists, writers, and commentators. Usually the best publications employ the most skilled writers and reporters. And they protect their reputation by making sure that their writing is beyond reproach. Most leading periodicals employ "fact-checkers" who verify all facts presented in an article. For example *The New York Times Magazine* is fact-checked by four full-time checkers and additional freelancers, as needed. *Time* magazine works somewhat differently and its fact-checkers are also reporters who do most of the preliminary research, some writing, and then do fact-checking after the story is completed by writers (Smith 2004, 153-156).

Reputation for trustworthiness can be fairly easily determined for other publications as well. For example, most government agencies reporting on economic indicators and trends will use the most reliable measurements and use analysis from the most respected economists. University presses will usually publish only the highest quality books on academic subjects. And peer reviewed academic journals by definition are considered highly reliable and also competent.

The problem is that often research takes us beyond the safety of what is well known. Like an explorer, often we enter terrain that is treacherous and dangerous. We won't move quickly and easily anymore. Every turn, every publication, every piece of information will require a careful consideration. The entire process of evaluating every piece of evidence begins anew.

Is the source an expert on the subject?

Many arguments will require no more than basic information from newspapers, magazines, and general reference publications. The expertise in such cases will not be a serious issue. However, the deeper one goes into a matter, the greater the importance of the expertise of the source. When one describes the basic principles of playing chess, articles from popular magazines will usually suffice. However, when that person would like to get into a deep analysis of a particular chess opening or other more theoretical strategies, expert sources are necessary, e.g., from professional chess players, chess scholars, analysts, etc. Generally, the more complex the topic is, the more knowledgeable a source we will need.

Thus, one of the key questions here is: Is the source qualified to report on the subject? What kinds of credentials does the expert have? Are the qualifications determined by experience, position, training, academic degrees? Again, as everywhere else, the situation is not always as simple as it may seem. Training, experience, or academic degrees is not always a guarantee that the author of the source is actually an expert or even knowledgeable on the subject. For example, an attorney should be knowledgeable about law, but that is not certain. Many lawyers practice in narrow areas and are not that familiar with other areas. The same, though probably to much lesser degree, would apply to physicians. In other words, general credentials indicate something, but the source must be evaluated much closer. Also, one must be aware of the possibility that some highly knowledgeable people, experts in their field, often take position that is at odd with the scientifically established theories. One example, mentioned earlier, is Linus Pauling, a Nobel Prize winner, one of the most eminent scientists who devoted the last part of his life promoting vitamin C as a 'miracle drug.' Another case is Francis Collins, on the one hand a great scientist and expert in genetics, and on the other hand a believer in a pseudo-scientific approach to evolution.

Is the source unbiased?

The general idea here is the same as the problem with conflict of interest. In one definition, conflict of interest occurs when the clash between person's self-interest and professional or public interest has the potential to undermine the impartiality of that person (BusinessDictionary.com 2012). In most professions there are strong legal or institutional rules designed to prevent conflict of interest. For example journalists of the *New York Times* adhere to a code of ethics that, among other things, states: "It is essential that we preserve professional detachment, free of any hint of bias. Relationships with sources require sound judgment and self-awareness to prevent the fact or appearance of partiality." (*The New York Times* 2012). Of course the rules alone can never assure the absence of conflict of interest, especially that it is not always clear whether or not a particular situation could compromise the objectivity of a particular person or institution.

Sometimes bias is obvious and the source itself doesn't hide it. For example, *American Spectator* is openly a politically conservative magazine, while *American Prospect* or *The Nation* does not hide its liberal views. All are there to promote certain ideology, just as General Motors or Toyota publications are there to advertise and promote company's product. Many other times the bias is not that clear. It can be suspected, but not certain. It seems that most consumer magazines are fairly objective in evaluating products, but there is always a question how the advertising in these magazines affects their objectivity. One magazine, *Consumer Reports*, actually does not place advertisements in its publications for that specific reason. The magazine claims that it can be much more objective that way.

The point here is not to reject any information that comes from sources that could be suspected of being biased, but rather that the information, if interesting and relevant to our research, should be compared with other sources. Further, just as we generally reject sources that are biased toward views that are not to our liking, we should be also very careful with the sources that present the views that we agree with.

Is the source consistent within itself (internally)?

Even when the source is considered reliable, unbiased, and expert, additional care must be taken in examining its internal consistency. Although it is rare that one source will contradict itself, it happens. Sometimes authors bring out contradictory evidence in supporting their theses; sometimes they even change their conclusions while progressing with an analysis. Some of the inconsistencies can be legitimate as when the authors openly argue that conclusions are not certain, but often the inconsistencies are unintended and make the source questionable.

Is the source consistent with other sources (externally)?

Let's assume that the evidence we collected so far is from trustworthy, unbiased, and knowledgeable sources. Further, it is mostly primary evidence and it is internally consistent. It seems that therefore we have good evidence. However, one last question remains to be answered: Are all the pieces of evidence consistent with each other or perhaps they contradict each other? Of course, if it is true that the individual pieces are from knowledgeable and trustworthy sources, the likelihood that they are inconsistent with each other is low. Still, it happens. In such cases we must reexamine our individual sources to make sure that they are good sources. Second, we may consider searching for still more sources to see what others say on the subject. Third, if the inconsistencies continue, we may conclude that there simply is no agreement on the particular subject.

Finding Evidence

Knowing what you need is one thing. Knowing where to find it is another. It is unfortunate that much of research is often based on the "principle" of minimum effort. Many sources are simply the first (or first reasonably good) sources found. It is almost like getting your new car from a place that is simply close to your home or you just happen to drive by. True, perhaps that first and the most convenient place get you a good car at a good price, but you have to admit that the chances are that there is a better deal and a better car somewhere else. Although in many cases such sources are sufficient, that is not certain until we examine other places. Many people who consider themselves smart shoppers spend hours on research before buying an item worth a few hundred dollars, and many more hours when buying a car, not to mention a house. They call friends, they go to several websites that evaluate products, they drive to several stores, they clip coupons in Sunday papers, and they compare. That is exactly what should be done in searching for evidence. Is this item good enough? Is there something more reliable? Is there something better quality? Is the publisher or author trying to sell us a lemon?

The first step in this type of evidence "shopping" is to know where the evidence can be found. In the old days the usual answer was: the library. Today students usually say: the Internet. Actually, there is not much difference between the two. Both could be considered places where the material is stored or through which the material can be obtained. Before the Internet the only way to find sources was to either get the original publication (e.g., buy a book or a magazine) or find the same in the library. The Internet added the convenience of storing a great deal of material electronically with an easy access via a personal computer. Today's libraries are simply a combination of the two. They store a great deal of material on-site—books, journals, government documents, etc., but they also assist in finding material through the Internet. They can be compared with "one stop shopping." Still, although the traditional print sources cannot be dismissed (yet), today most of the material is stored in databases and can be accessed from home either via the library's own intranet system or, more likely, through the Internet. A database is an organized collection of information. The databases that are the most important to all researchers are source databases, especially those with full-text. There is a large number of full-text databases covering all subjects and interests. Some are very broad and include a large number of sources. Others are very narrow and select only highly specialized sources. For example, one of the largest multi-subject databases is *Academic Search Premier (EBSCO).* According to its own website it contains full-text articles from more than 4,600 journals. On the other hand, an engineering database *ASME Journals* contains only engineering journals and only these of the highest quality. Of course there are databases in all disciplines and all areas of interest. The key advantage of databases is that the material on each of them is pre-selected according to certain standards. Some contain material relevant to a specific discipline (for example only research in engineering or medicine), others collect a certain type of material (for example only newspaper articles), others include only material from peer-reviewed and scientific journals, and still others use a combination of criteria (for example material in a particular discipline only from peer-reviewed journals), etc. All colleges and universities subscribe to most of the leading databases and, of course, they are free to students and in some cases even to the members of the community.

Finally, a few words about Google and Wikipedia. Both are popular and widely used. They are great ways to find information. However, a word or two of caution is necessary. Google search is often indispensable for getting quick and basic information, but is not always of great value for in depth research. First, the problem is that such a search does not sort sources by their quality and reliability. Second, even if one attempted to evaluate the sources, the sheer number of items resulting from a search is prohibitive. It is beyond anyone's ability to take upon that task. The basic search through Google usually generates thousands and often millions of items. Very often students pick the first few that look okay without bothering to go any further. Of course, for somewhat more in depth and scientific research, Google offers Google Scholar, a search through peer-reviewed and scientific journals. Still, the databases available through college libraries are superior to Google Scholar.

Wikipedia is also a great tool to get basic information, but it must be remembered that Wikipedia often suffers from the problem of accuracy and objectivity. Although most entries seem to be of good quality, still, the reader should be cautious in accepting all data from the publication.

Second, Wikipedia is only an encyclopedia and, regardless of its quality, is no more than a basic reference publication. It could serve as a good start in doing research, to understand the basics, the context, the background, but any in-depth research should go beyond Wikipedia.

Referencing sources

Since your argument is only as good as the evidence used to support it, the audience must be convinced that the evidence is good. Thus, all evidence used to support one's claims should be available for examination. That's the principle. Of course it is not always possible to state all sources in a speech and even in writing the bibliography is not always present. In many ad hoc debates, the participants often rely on their memory or even assume certain points as true without any specific evidence to support it. Even if the sources are well known to the arguer, he or she may chose not to mention them to avoid clutter in the speech or an essay. It could be annoying to listen to a speech that is filled with constant references to the sources. That could be less distractive in an essay where references can be listed as footnotes, endnotes, or in parentheses. But even these are more common to academic and generally more serious writing and are rarely seen in magazines or newspapers. Still, in many cases the list of references will be required and one must be familiar with the methods of writing citations and listing them. The three most used methods of referencing sources are based on style manuals from APA (American Psychological Association), MLA (Modern Language Association), and Chicago (University of Chicago). There are many books and online resources on the subject.

Key Terms

Definition of evidence
Reasonable doubt
Infinite Regress
Types of evidence

Factual Evidence
Circumstantial evidence
Opinions
Specific Instances (Examples)
Statistics
Testimony
Evaluating Sources of Evidence
Identification of the author / publisher
Primary and secondary sources
Reliability of the source
Expertise of the source
Objectivity of the source
Internal and External Consistency
Search for evidence
Databases
Referencing sources

Study Questions

1. Explain why a person doesn't have an obligation to accept a claim without evidence.
2. Explain the difference between evaluating evidence and evaluating the source of evidence.
3. Discuss the Infinite Regress in terms of how much evidence is needed in an argument.
4. Explain the value of listing sources.

Exercise

1. Examine exercises from chapters 5 and 6. What type of evidence did you use to support your arguments or your refutation? Should you use more?
2. Write a Reference List for your argument(s) from previous exercise (even if partially hypothetical).

Argument Portfolio

Do you think there is sufficient evidence to support your evaluation of the arguments in the portfolio? For example, previously you examined the material in terms of the effectiveness of a policy. You concluded that a particular policy is effective or ineffective. Look at your conclusion once more. Examine the available evidence.

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Methods of Reasoning

At the very beginning of this book I defined argument as a form of a persuasive discourse in which a claim is advanced and supported with evidence through the process of reasoning. In that meaning the word argument represents the structure, while reasoning refers to the specific connection between the claim and the supporting evidence, the connection that permits us to accept the claim based on the evidence. However, the words argument and reasoning are often used interchangeably as two words describing both: the structure and the process. There is no harm in doing so as long as it is clear that in this chapter we focus on the second meaning. The most important question about reasoning is: how do we know that the claim is supported by the evidence (reasons given) or, simply, what makes it work?

Standardizing Arguments

The first step in analyzing reasoning and determining whether it is cogent, is to understand the structure of an argument and identify all of its parts. The process of identifying all parts of an argument is known as **standardizing arguments**. Usually examples given in logic and argumentation books are selected or invented for simplicity and clarity. We could even say that they have been standardized already. However, in every day situations, arguments are not always simple and clear. Many arguments are disorganized. Many include great deal of material that is not directly related to the main argument. Many others are incomplete: often premises that are necessary for an argument to work are missing. Sometimes the premises are implied, sometimes are absent. Thus standardizing an argument is not only rewriting it but identifying all parts and their role in the reasoning process.

Let’s begin with the basic structure and a simple example. In the initial definition the structure of an argument was presented as a claim supported by evidence. The argument can be presented also as a conclusion that follows from premises. The words ‘conclusion’ and ‘claim’ mean the same. The words ‘evidence’ and premises’ also mean the same. Let’s look at some examples.

Claim: Los Angeles has a warm climate.

Because

Evidence 1: The average high summer temperature in Los Angeles is 85ºF.
Evidence 2: The average high winter temperature in Los Angeles is 69ºF.
Evidence 3: The average low winter temperature in Los Angeles is 48ºF.
Evidence 4: The temperature in Los Angeles rarely drops below 40ºF.

The reasons given for the claim, assuming they are true, seem sufficient to support it. This is an example of inductive reasoning where a number of observations lead to a generalization. It goes like this: Los Angeles has a warm climate because the summer days are very warm, the winter days are pretty warm, the coldest days (or nights) are not too cold, and very cold days are very rare. The word **because** indicates that what follows (the evidence) is sufficient to justify the claim. Other words that sometimes replace ***because*** are: *as shown by, follows from, as indicated by, for the reasons that, may be inferred from, may be derived from, whereas*, and many more.

Very often the structure of an argument is written in the reverse order. In that new order, the evidence or reasons are known as **premises** and what follows is the **conclusion** (previously indicated as claim). Here is how it looks in reverse order:

Premise 1: The average high summer temperature in Los Angeles is 85ºF.
Premise 2: The average high winter temperature in Los Angeles is 69ºF.
Premise 3: The average low winter temperature in Los Angeles is 48ºF.
Premise 4: The temperature in Los Angeles rarely drops below 40ºF.

Therefore

Conclusion: Los Angeles has a warm climate.

Both examples illustrate the same point and the same method of reasoning, but present them in two different ways. In the second example we say that since in Los Angeles summer days are very warm, the winter days are pretty warm, the coldest days (or nights) are not too cold, and very cold days are very rare, therefore Los Angeles has a warm climate. The word **therefore** indicates that the premises are sufficient to arrive at the conclusion. Other words that sometimes replace **therefore** are: *proves that, hence, so, implies that, consequently, which shows that,* etc.

Although the first format is more common when presenting arguments (especially complex arguments) to the audiences, the second is preferred when examining specific types of reasoning. Thus, for the purpose of this chapter, I will use the second format. Now let's look at a slightly more complicated argument (but still fairly simple). Here is an excerpt from an opinion article in the *New York Times*: "I have seen the future, and it works. O.K., I know that these days you're supposed to see the future in China or India, not in the heart of "old Europe." But we're living in a world in which oil prices keep setting records, in which the idea that global oil production will soon peak is rapidly moving from fringe belief to mainstream assumption. And Europeans who have achieved a high standard of living in spite of very high energy prices — gas in Germany costs more than $8 a gallon — have a lot to teach us about how to deal with that world" (Krugman 2008).

The task here is to identify premises and the conclusion.

Premise 1: The world (and the U.S.) will face high energy prices.

Premise 2: Europe has very high energy prices already.

Premise 3: Europeans have achieved a high standard of living in spite of very high energy prices.

Therefore:

Conclusion: The Europeans have a lot to teach us about how to deal with the world of high energy prices.

Once we are very clear what the premises and the conclusion are, we can ask the next, and the most important, question: how do we know that the conclusion follows from the premises? Or, how do we know that the conclusion can be inferred from the premises? Or, simply, how does it work?

The argument above is an example of reasoning by analogy (treated in greater detail later). It works like this: Since we will have to deal with high energy prices and, presumably, we would like to sustain our high standard of living, and Europe is similar to us in many regards, it has dealt with high energy prices already, and it achieved and sustained a high standard of living, we should take lessons from Europe. Or, in other words: If it works in Europe, it should work in the U.S. The argument continues with the specific recommendations based on the European example: "If Europe's example is any guide, here are the two secrets of coping with expensive oil: own fuel-efficient cars, and don't drive them too much."

The first example used an inductive reasoning, or more specifically inductive generalization. The second was reasoning by analogy. In the next section we will examine different types of reasoning, including the two from earlier examples, and the mechanism that permits us to accept the conclusion based on the premises given.

Types of reasoning

In logic, we often refer to the two broad methods of reasoning as the ***deductive*** and ***inductive*** approaches. The key point distinguishing between the two is that a valid deductive reasoning with true premises always leads to true conclusions, while correct inductive reasoning with true and sufficient premises leads to probable but never certain conclusions. Another way to distinguish between the two is that usually the typical deductive reasoning works from the more general to the more specific. Sometimes this is informally called a "top-down" approach. We begin with a general principle or a theory and see if it applies to an individual case. If it does, the case will follow the general principle. In the classic example, if all humans are mortal and Socrates is human then Socrates is mortal. The general principle applies to all humans and to the individual case of Socrates.

Inductive reasoning works the other way, moving from specific observations to broader generalizations and theories. Informally, we sometimes call this a "bottom up" approach. In inductive reasoning, we begin with specific observations, begin to detect patterns and regularities, and finally end up developing some general conclusions or theories. For example, when we open a bag of apples and see that the first one is rotten, and then the second, and the third, and the fourth, we can conclude that probably all (or most) apples in the bag are rotten.

Deductive Reasoning: Syllogisms

The principal characteristic of deductive reasoning is that the conclusion at which we arrive has been stated or implied already in the premises. Thus, if the premises are true, the conclusion must be also true. "Every deductive argument is either valid or invalid: valid if it is impossible for its premises to be true without its conclusions being true also, and invalid otherwise" (Copi & Cohen 1998, 217).

Let's begin with a classic example once more:

Premise 1: All humans are mortal
Premise 2: Socrates is a human

Therefore
Conclusion: Socrates is mortal

Taken separately, neither of the premises claims that Socrates is mortal. However, when considered together they form a reasoning that clearly leads to the conclusion. It goes like this: if all humans will eventually die, and Socrates belongs to the homo sapiens specie, then he cannot be an exception. The inevitable conclusion is that "Socrates is mortal." This classical deductive reasoning can be also explained by using theory of classes. Humans constitute a class, a group of individuals who posses certain characteristics common to all of them. If an individual is a member of this class, he also must possess the characteristics. All members of homo sapiens class share one important characteristic: at one point their life will end. If you are a member of the class you will die, too (hopefully not any time soon).

That classic example represents reasoning structure known as **syllogisms**. There are several forms of syllogism: **categorical**, **hypothetical (conditional)**, and **disjunctive**.

The categorical syllogism is a type of reasoning in which “a categorical statement is derived as conclusion from two categorical statements as premises” (Quine 1972, 86). Such syllogism uses three terms, each used twice, but only once in each premise. Here are examples of different forms of categorical syllogism. The first one is identical to the “Socrates” example presented earlier:

P1: All men are mortal,
P2: All Greeks are men;
C: All Greeks are mortal.

P1: No men are perfect,
P2: All Greeks are men;
C: No Greeks are perfect.

P1: All philosophers are wise,
P2: Some Greeks are philosophers;
C: Some Greeks are wise.

P1: No philosophers are wicked,
P2: Some Greeks are philosophers;
C: Some Greeks are not wicked.

P1: All Greeks are men,
P2: Some mortals are not men;
C: Some mortals are not Greeks.

P1: Some men are not Greeks,
P2: All men are mortal;
C: Some mortals are not Greeks.

Hypothetical (conditional) syllogisms are based on the same principle as the categorical syllogism, but are, as the name would suggest, hypothetical or conditional. The most typical form of hypothetical syllogism is:

P1: If A then B,
P2: If B then C;
C: If A then C.

Example:

P1: If Mary delays her college education plans she will not be eligible for scholarship,

P2: If a person is not eligible for a scholarship she will pay full tuition;

C: If Mary delays her college education plans she will pay full tuition.

Here are other examples of valid hypothetical syllogisms:

P1: If A then B,
P2: A.
C: B.

P1: If A then B.
P2: Not B.
C: Not A.

And here are two examples of invalid hypothetical syllogisms. The first is known as **denying the antecedent:**

P1: If A then B,
P2: Not A;
C: Not B.

This form is invalid because it does not specify that A is the exclusive cause of B, or, in other words, that B occurs only and only when A is present. Without that additional condition, it cannot be assumed that lack of A prevents B from occurring. For example:

P1: If John completes his homework, he will pass the class,
P2: John does not complete his homework;
C: John will not pass the class.

Although the reasoning sounds convincing, the point is that John may pass the class anyway for other reasons (he may get extra credit work). In other words, if John completed his homework, that would assure his passing the class. However, there is nothing in the above argument that not completing the homework would automatically assure his failing.

Finally, there is the so-called **fallacy of affirming the consequent**.

P1: If A then B,
P2: B;
C: A.

We can use the previous example

P1: If John completes his homework, he will pass the class,
P2: John passed the class;
C: John completed his homework.

As we said before, completing the homework was a guarantee of passing the class, but not completing the homework was not an automatic failure. Thus, as before, it can be said that John passed the class for reasons other than completing the homework.

Disjunctive syllogism

In this argument a choice is given between two mutually exclusive statements. Only one of the statements in the major premise (P1) is true. Thus, if one is known not to be true, then the other must be true.

P1: Either A or B.
P2: Not A.
C: Then B.

Richard Nixon was born in California or in Arkansas.
Nixon was not born in Arkansas.
Therefore: Nixon was born in California.

Cogent Deductive Reasoning: Validity and Truth

There are two conditions required for a deductive argument to be cogent (good, sound). First, the argument must be valid. Second, its premises must be true. In the previous section we have already discussed a variety of forms of deductive reasoning, mostly valid ones, but noting also a few invalid ones. Now another area must be emphasized: the quality of the premises. Invalid deductive arguments happen sometimes, but the validity is usually intuitive and even untrained in logic person can easily manage recognizing valid deductive reasoning. Much more common problem is the one with questionable premises. For example, the following argument is valid, but it is not cogent because one of its premises is not true (Zeus is not a man). Thus, the conclusion does not follow from the reasoning.

Premise 1: All men are mortal
Premise 2: Zeus is a man
Conclusion: Zeus is mortal

Demonstrative syllogism (probabilistic "deductive" reasoning)

Let's begin with an important disclaimer. In formal deductive reasoning there is no such a thing as probable conclusions. The conclusion is either true or false. However, as one logician stated a long time ago: "The information on which we reason in ordinary life is seldom or never certain, and almost all reasoning is really a question of probability" (Jevons 1877, 209). We rarely reason from such categorical statements as "all humans are mortal." It is more likely to encounter statements starting with "most people," "it is very likely," "there is a high probability," "almost all," etc. Even when we say something like "College students are intelligent," what we mean is probably: "Most college students are intelligent" or "it is very likely that college students are intelligent." In that reasoning:

Premise 1: Most college students are intelligent.
Premise 2: Alex is a college student.

Conclusion: Therefore, it is very likely that Alex is intelligent.

The problem here is that every time we deal with statements that are only probable, we cannot be sure of the conclusion. And yet, the high probability of the major premise (premise 1) is a sufficient assurance. In cases where we need 100 per cent certainty, we would have to look for further proof that Alex is intelligent. The same is with so many other areas of life. For example in medicine, almost all initial diagnoses are based on such probabilistic reasoning. Certain symptoms indicate certain illnesses with a high probability, but rarely with certainty. Very often the probability is enough to detect the problem, but sometimes further tests are required.

Inductive Reasoning: Generalizations

British philosopher Bertrand Russell suggested that "all the important inferences outside logic and pure mathematics are inductive, not deductive" (1945, 199). The point is that most premises in deductive reasoning derive from inductive reasoning. Even the statement all men are mortal is not entirely certain. The argument that Socrates is mortal because he is a man and all men are mortal may sound simple and obvious, but how do we really know that "all men are mortal?" Here is Russell one more time: "But what we really know is not 'all men are mortal'; we know rather something like 'all men born more than one hundred and fifty years ago are mortal, and so are almost all men born more than one hundred years ago…' But this argument is an induction, not a deduction. It has less cogency than a deduction, and yields only a probability, not a certainty" (1945, 199).

Inductive reasoning leads to new discoveries. It is a reasoning based on experience and observations. Suppose that on the first drive to a new job you encounter heavy traffic, and then get stuck in it again the next day, and the next day. You will quickly conclude that, unfortunately, this particular route always has traffic and it is time to either change the route or, if that is not possible, get used to it. Once on the job you will meet many new people. Sooner or later it will happen that someone will ask you to borrow a dollar or two for a soda from a vending machine or for a cup of coffee from the local cafeteria. Although most people will return these few dollars as soon as possible, inevitably there will be one who always forgets about these small loans. After two or three of such occurrences you will be very annoyed (it is not the few dollars but the principle) and will begin avoiding that person or, at least, when asked again for a loan you will politely refuse or pretend that you don't have any money. Again, not even thinking about it, you have used induction.

In both examples the number of observations or incidents used to draw a conclusion was very small and the reasoning was rather weak. We will return to that problem in a moment. Yet, both are illustrations of the principle of induction. Inductive reasoning can be characterized as learning from experience. We discover regularities, patterns, and commonalities. They could be small (or even trivial as the one with the small loans), but they could be of much greater importance. When Lewis and Clark journeyed up the Missouri River they encountered many tribes of Native Americans. They knew very little about each of them, but quickly began forming impressions about the peoples they were encountering. Today we may call these impressions stereotypical, but the survival of the expedition depended on it. Lewis and Clark had to know how to distinguish between aggressive and friendly tribes, between those that could hurt their chances of exploration and those that would help (Ambrose 1996).

In short, through inductive reasoning we form generalizations. We say that the route X (the one we drive to work) is a congested one; we conclude that our colleague Y at work cannot be counted on returning loans. We know from experience that green and hard apples are most likely to be sour. Using a larger number of observations made by others we know that Black and Jewish voters are more likely to vote for Democratic candidates, we know that Toyota cars are more reliable than Kia, and we know that the weight of the first child is more likely to be lower than the weight of the next children born from the same woman.

One more time, we need a word of caution. What can seem as a regularity or commonality is not always so. One of the shortcomings of induction is that its conclusions are not guaranteed to be true. In writing about induction, Bertrand Russell said:

> Let us take as an illustration a matter about which none of us, in fact, feel the slightest doubt. We are all convinced that the sun will rise tomorrow. Why? Is this belief a mere blind outcome of the past experience, or can it

> be justified as a reasonable belief? […] It is obvious that if we are asked why we believe that the sun will rise tomorrow, we shall naturally answer, 'Because it always has risen every day'. We have a firm belief that it will rise in the future, because it has risen in the past. If we are challenged as to why we believe that it will continue to rise as heretofore, we may appeal to the laws of motion… [Yet] the only reason for believing that the laws of motion will remain in operation is that they have operated hitherto, so far as our knowledge of the past enables us to judge" (1997, 60-61).

Thus, although we can safely go to bed believing that the sun will rise tomorrow, there is no assurance that will actually happen. In a purely logical sense, induction can never be valid. However, when our inductive conclusions (the experience, the habits, and regularities) are tested over and over again, we can establish at least a high level of probability of something happening again. As another British philosopher Karl Popper said about inductive inferences: "[There are no] good reasons for believing them to be true, but for believing them to be the best available… the best among the competing theories, the best approximations to the truth" (1979, 95).

Thus, the point is not to insist on finding the truth of a proposition, but on increasing the probability of the proposition being true. The cogency of inductive reasoning can be assured (or increased) with a careful examination of cases used for the conclusion. The sample used for our reasoning must be **representative** of the entire group. If, for example, we are surveying community college students, we need to make sure that we select a sample of 'typical' community college students. Although this may sound simple, careless selection may result in getting a sample with a large percentage of students who are not typical.

Another important requirement is to select a **sufficient number** of cases for the sample. One or two observations rarely prove the point. They are examples to illustrate the point but not sufficient to prove it. There is no magic number for that requirement. In informal arguments, several cases will suffice, while in other situations a statistical analysis based on several hundred observations will be necessary. These and other problems with generalizations are also covered in the next chapter on fallacies.

Causal reasoning

Causal reasoning is an extension of the basic inductive reasoning. Like induction, it is also based on forming generalizations from a number of individual observations. However, a generalization in this case refers to a causal relation between two phenomena. Thus, the reasoning goes like this. If A and B occur together time after time, there is a good reason to believe that A and B are causally related:

> All observed cases of A are accompanied by cases of B
> Therefore (a generalization):
> All cases of A are accompanied by cases of B.
> Therefore:
> All cases of A and cases of B are probably causally related.

Suppose you notice that after eating a large portion of sweets you become rather sleepy. At first you don't pay much attention to it, but after the second and third time you begin connecting the two: (A) eating food with a high content of sugar and (B) sleepiness. You conclude that if A accompanied B several times, it is very likely to accompany B again in the future. The generalization is that all A are accompanied by B. If that is the case, then you conclude that sugar in your food causes sleepiness: A causes B. After all, if it happened one time, maybe even two, it could be a coincidence, but after several occurrences the two events must be connected in some causal relationship.

Often people form a belief of causal relationship after just one case of B following A. Although acting upon that belief could be a wise decision (just in case), that belief might be incorrect. For example, a child who is unlucky to be bitten by the first dog she encounters will be convinced that getting close to a dog results in a dog bite. Again, being careful next time is wise, but the generalization formed is not necessarily true. In that case that child commits the fallacy of "after this, therefore because of this," often known by its Latin name: *post hoc ergo propter hoc*. Avoiding this fallacy, or, in other words, establishing with certainty that there is a real causal relationship and not a mere coincidence is the main challenge in causal reasoning.

It is true that everything is likely to have a cause, but finding that cause (a real cause) is not an easy matter. What makes the situation even worse is the fact that since we believe that a cause must exist, we feel compelled to find or suggest one, often in a hurry and without much thought. If not for the fact that such causal explanations could have serious consequences, our propensity for finding causes for everything could be dismissed as just funny. One example is the daily report on the causes of the ups and downs of the New York Stock Exchange. On occasions the changes are significant and certainly require explanations for a better understanding of the entire financial system. But often the changes are so small and so equally distributed among different stocks that they should be accounted by normal fluctuations in selling and buying. They are usually less than one percent of the total value of investments. Still, almost every day of the week newspapers find some cause for even the smallest change. Naturally, it is not that they are always incorrect, but that more often than not it is a simple guessing. Or, a simple case of *post hoc ergo propter hoc:* any change in the stocks value is quickly attributed to any news report, political event, speech, or newly released statistics that preceded the change. Sometimes the quest for causal explanation could be very confusing as in this report in reference to the Dow Jones industrial average rising 0.3% over the previous day:

> Stocks drifted higher in light trading Monday, brushing aside another record high for oil prices amid hopes that the impending tide of third-quarter profit reports would override worries about a struggling economic recovery. With no major economic or earnings data to steer market sentiment on the Columbus Day holiday, investors appeared to be betting that the quarterly reporting season might divert attention from Friday's disappointing employment report and rising fuel costs. However, analysts were dubious that the market could build much momentum on profit news alone without some resolution to the big question marks dogging the near-term outlook" (The Los Angeles Times Markets 2004).

That somewhat wild and "all-over-the-place" conclusions may give an impression that causal reasoning is mostly guessing. Of course, as in any other type of reasoning, it could be guessing, but a properly conducted causal argument can be a powerful tool. The main challenge in this reasoning is to make sure that two phenomena or things are indeed causally related. There are two basic requirements for causal reasoning. (1) If A occurs, then B will also occur. (2) If A does not occur, then B will not occur either. The two requirements lead us to a usual division of causes into **sufficient** and **necessary**. The first requirement accounts for a sufficient condition that is required for something to happen: it is sufficient that A occurs for B to also occur. In other words, for B to occur, A *must* occur. The second accounts only for a necessary condition: A is necessary for B to occur, but it might not be sufficient. This may seem as an unnecessary case of splitting hairs, but it is important because it gives us much better understanding of the complexity of causal relations. For example, a working cigarette lighter is sufficient to light up a cigarette. Yet, it is not necessary. One can light up a cigarette with a match, a hot stove, or a burning piece of wood from a fireplace. Of course, we could say that what is necessary and sufficient is the heat (whether delivered by a lighter or hot stove or something else). In another example, proving that a person was at a crime scene exactly at the moment of the crime being committed is necessary to prove that person's guilt, but is not sufficient. The presence of HIV virus is necessary to develop AIDS, but not sufficient. Applying to a graduate school is generally necessary to be admitted, but not sufficient. Sometimes there is not one cause that is sufficient for something to happen. Only when several necessary conditions exist, something will occur.

Finding the actual causes is not always an easy task. Scientists deal with the problem by using experiments. The main strength of experiments is to isolate and control the "causes" and the "effects." The effect for which one searches for causes is known as a dependent variable and the variables that are the causes (or probable causes) are known as independent variables in terminology of scientific research. True scientific experiments in which all variables could be fully controlled are rarely possible outside of exact sciences. Still, experiments are not exclusively laboratory activities. There are some that are similar to laboratory setting and there are many more that are conducted in a natural setting without an artificial alteration of the variables and the environment. Such experiments are known sometimes as quasi-experiments. And even in our everyday observations we should be able to apply the main principles of experimentation. Just trying to isolate all relevant causes while understanding the limitations of such an attempt could be sufficient to reach a high level of probability in determining causal relations.

Here is an example of a typical experiment in social sciences. In recent years there has been a great emphasis on using new technologies to enhance students' learning. It is generally assumed that such tools as, for example, Power Point presentations are very effective. We begin with a hypothesis: students' comprehension of a typical college lecture is enhanced by PowerPoint slide presentation. To test that hypothesis we need to design an experiment. We randomly select a group of first year students from a typical college (say, 200 students). Then we divide that group into two equal groups, group E (experimental) and group C (control). Before continuing with the experiment, students in both groups are tested on their knowledge of the subject of the lecture. Now, an identical lecture will be delivered for a group E and group C (in different classrooms, obviously). The lecture is identical with one exception. Students in a group E will listen to a lecture illustrated with Power Point slides. Students in a group C will listen to a lecture without the slides. After the lecture students would be tested on the knowledge of the subject. According to the hypothesis, the expected result is that after the lectures students in a group E (with the slides) should have a greater understanding of the subject than students in a group C (without the slides). If there is no difference or the understanding is better in a group C, our hypothesis is not supported by the experiment.

Finally, an interesting and controversial causal claim advanced by the University of Chicago economist Steven Levitt. Professor Levitt suggests that the legalization of abortion in 1973 explains America's falling crime rate during the 1990s. He began with a simple observation that the crime rate among young people who were born after legalization of abortion dropped rapidly. In the early 90s that group was reaching late teens and early twenties, the age when most crime is committed. Of course, as we said before, that connection could be either coincidental or caused by many other factors. Professor Levitt took other possible causes into account, e.g., economic growth, gun control, new methods of policing, longer jail time, etc. He agrees that some could provide a partial explanation, but claims that legalization of abortion is still the most compelling one. Here he explains the connection between legalizing abortion and falling crime rates:

> What sort of woman was most likely to take advantage of Roe v Wade? Very often she was unmarried or in her teens or poor, and sometimes all three. What sort of future might her child have had? One study has shown that the typical child who went unborn in the earliest years of legalized abortion would have been 50 percent more likely than average to live in poverty; he would have also been 60 percent more likely to grow up with just one parent. These two factors… are among the strongest

> predictors that a child will have a criminal future… In other words, the very factors that drove millions of American women to have an abortion also seemed to predict that their children, had they been born, would have led unhappy and possibly criminal lives (Levitt and Dubner 2005, 138-139).

Reasoning by Analogy

Reasoning by analogy has two variations. In one version, a person compares two (or more) cases that are similar in some respects and infers that the same similarity could apply to other areas as well. If it can be observed that cases A and B are similar in areas 1, 2, and 3, they are probably similar in areas 4 and 5, etc. Since there are similarities in things that are known, there are probably similarities in unknown things. Let's look at examples of the first version. Imagine that you are looking for your favorite boutique in a new city. You intend to ask someone about it or you will look in the Yellow Pages, but before you do that, you find yourself next to a large shopping mall. The mall is unknown to you, but you immediately begin noticing similarities with the mall in your own neighborhood. There is Macy's on one side and JCPenney on the other. You drive closer and see some other familiar stores. "My boutique must be here as well!" you exclaim. You reason by analogy. If the mall is very similar to the one you know in several respects, you have good reasons to believe that it is probably similar in other respects—more specifically, that it has your favorite boutique in it, too. Of course, as in any other inductive reasoning, this one is also only probable. It is very likely that your boutique will be there, but that is not certain.

The second variation of the reasoning by analogy is that if a thing, person, or event has shown certain properties once or twice, it will show the same property again. Here how it goes: if, for example, we are in need of an auto mechanic, we probably will go to the one that did a good job before. We reason that if the mechanic did a good job on our car and what is required now is similar to the previous job, the chances are he will do a good job again. What is observed is the previous experience and what is not is the future performance. The past and the future are very similar: cars are the same or very similar, the repair is different, but if the mechanic knows how to fix one part of the car he probably knows how to fix another.

What we see here is very similar to inductive generalizations. However, analogies are, if I could characterize them that way, shortcuts of inductive generalizations. They are based on small number of cases (sometimes an individual case). In the "auto mechanic" example we do not know if the mechanic is actually a good mechanic. We had only one experience with him. It is possible that he is actually a less than average mechanic, but the previous repair was very simple or he was simply lucky in diagnosing what is wrong with our car. Naturally, much better answers to these questions and doubts could be provided by more comprehensive examination of our mechanic's work, e.g., a survey of a large number of customers and their experiences with this repair shop. But, again, that would be inductive generalization, not reasoning by analogy.

A logician Irving M. Copi claims that, "most of our own everyday inferences are by analogy" (1961, 338). That commonality results from the fact that, in one sense, reasoning by analogy is an "imperfect" reasoning. It is similar to inductive generalization, but based on very few cases (usually just two). And, in some ways, is similar to deductive reasoning. The analogy takes place of a syllogism. For example, say oak looks the same as beech. Oak is hardwood, so beech probably is also hardwood. That is reasoning by analogy. However, if we had more information, the reasoning would go like this: All flower-bearing trees are hardwood trees. Oak is a flower-bearing tree. Therefore oak is hardwood. And the same would apply to beech: All flower-bearing trees are hardwood trees. Beech is a flower-bearing tree. Therefore beech is hardwood. However, since very often our knowledge is limited, the only thing we know is that oak is hardwood and that beech is similar.

The main requirements for good reasoning by analogy are: (1) that the similarities between A and B are substantial (or in a number of ways), and (2) that the similarities are relevant. In all three earlier examples the similarities were substantial and probably the most extensive in the case of the shopping mall. They were also relevant. However, it happens often that the requirement is not met. For example, arguing that since our mechanic did a good job on our car one time before, he probably could also do a good job on our broken refrigerator is rather questionable. The similarity is there, but only in general terms (being skilled mechanic), but there are great differences between cars and refrigerators.

Key Terms

Standardizing Arguments
Claims / Conclusions
Evidence / Premises
Deductive Reasoning
Syllogisms
Forms of syllogism: categorical, hypothetical (conditional), and disjunctive
The fallacy of denying the antecedent
The fallacy of affirming the consequent
Cogent Deductive Reasoning
Demonstrative syllogism: probabilistic “deductive” reasoning
Validity and Truth
Cogent (Sound) Inductive Reasoning
Inductive Reasoning: Generalizations
Samples: representative and sufficient
Causal reasoning
Necessary causes
Sufficient causes
Reasoning by Analogy

Study Questions

1. Explain why is it necessary (or helpful) to standardize arguments.
2. What is the role of premises (evidence) and conclusions (claims) in an argument?
3. Explain the basic principles of deductive reasoning.
4. What are the key requirements for a deductive reasoning to be cogent?
5. Explain the basic principles of inductive reasoning?
6. What are the key requirements for an inductive reasoning to be sound?
7. Explain the causal reasoning and its key requirements.
8. Explain reasoning by analogy.

Exercises

1. One more time examine exercises from chapters 4 and 5 (or, watch another political talk show). Can you identify reasoning used by the participants in their arguments?
2. Talk to your friends who don't have formal training in types of reasoning. Give them examples of inductive (deductive, causal, analogy) reasoning and see if they intuitively see what the key requirements are for each type of reasoning.

Argument Portfolio

Examine reasoning used in the arguments in your portfolio. Identify the types of reasoning. Do they meet the key requirements for each type of reasoning? Do you think the arguments could be reasoned differently?

8

When reasoning goes wrong: Fallacies

Basic rules of reasoning seem simple and intuitive. After all, logical thinking is a natural activity and our mind is predisposed to correct reasoning. And yet, our reasoning is likely to suffer from errors, mistakes, and miscalculations; especially when we are a target of intentional manipulations. In some cases, the problems can be easily detected. Much more troubling is a situation in which arguments look sound when in fact they are incorrect and false. These errors in reasoning are known as fallacies. Irving M. Copi defines a fallacy as "a form of argument that seem to be correct but which proves, upon examination, not to be so" (1961, 52). Two points from that definition are worthy reiterating. First, many arguments look fine and we accept their conclusions without much thought. Second, that only a careful examination can assure us of the quality of an argument. It must be noted that just because the reasoning is fallacious, the conclusions are not always false. Sometimes they are true. However, if they are true, that is for some other reason and not because of the fallacious reasoning. The conclusions are not justified by the argument, they just happened to be true. For example, I could say: my neighbor must be a doctor. Why? Well, he is a drunk and all drunks are doctors. So he must be a doctor. Of course this is a fallacious reasoning. Although the structure of the argument is valid, there is a problem with one of the premises. It is not true that all drunks are doctors. Thus, we can not conclude from the premises that the neighbor is a doctor. The conclusion is not justified by the premises. However, it just happens that my neighbor indeed is a doctor. So, by pure luck I arrived at a true conclusion; pure luck, but not the power of logic.

German philosopher Arthur Schopenhauer wrote in his book *The Art of Controversy*: "it would be a good thing if every trick could receive some short and obviously appropriate name, so that when a man used this or that particular trick, he could at once be reproved for it" (2004). Although there is no exhaustive list of all fallacies and the names of fallacies are not always standardized, Schopenhauer's desire has been largely fulfilled. Actually, the process began long ago with Aristotle. Most terms from Aristotle are in use today. Other fallacies were named later. Some have difficult and obscure names (affirming the consequent or ignoratio elenchi) and others found their way into everyday language and are very familiar to most. For example, when someone attacks another person's character instead of his or her argument we quickly reply: Oh, this is ad hominem! Occasionally we hear the terms "begging the question," "appeal to authority," "slippery slope," or perhaps "hasty generalization" or even "non sequitur."

The list of fallacies is never exhaustive. Even books devoted exclusively to fallacies rarely succeed in describing most of them. Of course they never really try to be a complete collection of fallacies. Probably that would be impossible. The list in this book covers about two dozens of fallacies. There are many more. Although it is important to know the names and understand some of the most common fallacies, the key point here is to be vigilant in catching problems with reasoning. Sometimes we don't know the name, but we understand that the problem exists.

Fallacies are usually placed in three large categories: formal, material, and verbal. Two basic requirements for reasoning to be cogent (or sound) are: (1) the reasoning must be valid or correct; and (2) the reasoning must have premises that are true (are justified) and relevant to the reasoning. The first two categories of fallacies correspond to the two requirements. Reasoning is fallacious (1) if it is not valid (or not correct) or (2) if its premises are false or not relevant. The third category refers to the problems with the language used in arguments.

Thus:

Formal fallacies refer to the problems that can occur in the formal structure of the reasoning process: the conclusions cannot be inferred from the premises on logical grounds even when the premises are all true and the language is clear (Rescher 1987, 280). In short: the argument is invalid (or incorrect).

Material fallacies are known also as fallacies of the premises or fallacies of presumption; they refer to the problems with the premises from which one establishes a conclusion. Although in these cases the reasoning can be valid (or correct) the premises are either not true, avoid the issue, or are conclusions in disguise.

Verbal fallacies are known as fallacies of language (sometimes also as fallacies of ambiguity) and refer to the problems with the language used in arguments, e.g., when conclusions are reached through the use of ambiguous terms. The premises could be true and relevant, and the reasoning cogent, but all is communicated in poor and confusing language.

Formal fallacies

All types of reasoning depend on certain structure to connect the premises with the conclusion. Previous chapter listed several types of reasoning and the basic requirements for the inference to work. Only when certain conditions are met, we can say that the conclusion was inferred from premises or that the premises support the conclusion. However, only in deductive reasoning the structure assures with certainty that if premises are true, the conclusion must be true. In inductive reasoning, the conclusion will always remain probable, but never certain. Thus, any violation of the formal structure of deductive reasoning automatically disqualifies an argument, while certain violations in inductive reasoning simply weaken the argument but don't disqualify it. Because of that, logicians generally consider formal fallacies as exclusively fallacies of deductive reasoning. In any case, whether we treat formal fallacies only in deductive reasoning or expand the category to other types of reasoning, the problems with reasoning structure and validity was covered in the chapter on reasoning. Please, review the requirements for valid and correct reasoning in all types of arguments.

Material fallacies

1. The Fallacies of Irrelevant Conclusion (or Fallacies of Relevance). This is a large group of false arguments that draw conclusions that are not relevant to the stated premises. Or, in other words, the fallacies are committed when "the conclusion changes the point that is at issue in the premises" (Rescher 1987, 280). Here is a list of the most common fallacies of irrelevant conclusions:

Ad Hominem. The fallacy is committed when one directs an argument at the person, person's character, motivations, etc instead of the merit of the argument. For example, when one says "Governor Brown's plan for reforming California schools is unacceptable because he took donations from teachers' unions," the person avoids an argument about Brown's plan and tries to "change the subject" by pointing to Governor's political or personal actions. That is irrelevant, just like a parent dismissing her teenage daughter's argument by exclaiming "You are too young to understand!" Even if personal qualities, preferences, and motivations affect person's actions and decisions, we still have to show that the action or policy is wrong, incorrect, or ineffective. If the Governor's reform is unacceptable, it must be shown why the plan (the plan, not the author of the plan or his motivations) is unacceptable.

Ad Populum. This fallacy is committed when one measures an argument by its popularity among the public. This can be done in two ways: either by "arguing" that a claim must be good since so many people like it or by appealing to accept the claim because it fits audience's beliefs or prejudices. Similarly as in the case of ad hominem, there is some merit in this type of reasoning. If, for example, a product is very popular, it is very likely that is a good product, e.g., a particular car model or a computer brand. However, the point is again that if that is true, it is not sufficient to say that a product is good because many people buy it, but rather why the product is so good that many buy it.

Appeal to Inappropriate Authority. Obviously, appeals to authority have a place in argumentation. In many matters the most authoritative source provides the best support for claims. However, the fallacy is committed when the source is either not a real authority or its claims are not supported by other evidence. It is common that a source that we hold dear to us, that has provided us with good advice and comfort in one area, will be held in high esteem and trust in others. Unfortunately, our trust in and respect for certain people is not enough. For example, those who believe that vitamin C is effective against colds and other illnesses often base their arguments on the authority of Linus Pauling, a Nobel laureate in chemistry, who later in his life promoted vitamin C as a "wonder drug." What's more, he not only believed that vitamin C could be a remedy for common cold, but that megadoses of certain vitamins could actually work for some forms of mental illness. Although Pauling's views were discredited by other scientists, for many his fame as a renowned chemist still proves his authority (Barrett 2008).

For many Christians the Bible is unshakable source on most matters, and for strong supporters of presidents and governors, the word of such politicians mean a great deal. Some support their arguments with statements like: It must be true because President Obama (or Bush, or Clinton, etc) said so… Even the Bible says that… My biology professor said… Advertisers commonly use famous people to sell products that are clearly beyond these people's expertise. David Beckham "sells" underwear, Britney Spears Pepsi-Cola, and Erik Estrada some real estate in Northern California.

Appeal to Tradition. Similarly as with appeals to authority, this fallacy is committed when instead of supporting an argument with evidence, an arguer appeals to "trusted sources." In this case, tradition, religion, or history serves as the source. The arguer assumes that what has been accepted for a long time and tried many times must be true. As always, in some cases the fallacy is very easy to detect. But the fallacy could be very difficult to identify if the conclusion is very compelling. After all, one reason why certain age old customs and beliefs are widely accepted is because they have withstood the test of time. They have proven to be the right customs. However, they are considered the right customs not because they are old, but because of other reasons. And for each custom that we continue to accept, there are many others that we rejected.

Genetic Fallacy. In this fallacious reasoning, the arguer tries to discredit an idea because its origins are suspect. For example, sometimes people argue that the 1937 Marijuana Tax Act prohibiting the importation, sale, and use of marijuana is wrong because its sponsors were racists and prejudiced against Mexican-Americans. However, even if racism or prejudice can be proven true, that does not mean that the law prohibiting marijuana is bad. And, if it is bad, there must be other reasons to prove it. When some congressional bills go through torturous legislative process and are finally passed at 3 a.m., sometimes opponents cry foul. They suggest that there is something wrong with the legislation because of the ungodly hour. But why should the hour have anything to do with the actual bill? If the argument is that the legislators were too tired and too sleepy to pass a reasonable bill, well, then that must be proven. The hour alone doesn't mean anything.

Red Herring. A "red herring" is a debating tactic that seeks to divert an opponent. Usually the arguer introduces a new topic, a new point in the debate, under the guise of being relevant. One could say: "I agree with the problem of drunk driving. However, we have to take into account that there are many other problems that require our attention. There are so many that we simply cannot address them all. Take for example…" Obviously, the point that there are many problems in the world doesn't have anything to do with the original point.

2. Begging the question (or ***petitio principii***, "assuming the initial point"). This fallacy is committed when one assumes the conclusion without any attempt whatever to prove it. Usually this is done by asserting in one of the premises what supposed to be proven in the argument. In the extreme form, the fallacy sounds like this: "Good books are good because they are good." The argument is ridiculous and is obvious at the first look. Not much better is the statement: "Military spending should be reduced because it is too large." The point that the spending is too large has been assumed. If we agree that the spending is too large, we certainly could agree that perhaps it could be trimmed a bit. However, what exactly is "too large?" There is no answer to that. But say someone said: "It is too large because it is now more than $350 billion." Again, it is assumed that $350 billion is too large. The question is why $350 billion is too large. What are the reasons to believe that such amount is too large? But sometimes the argument can be more complicated and the fallacy not that obvious, at least not at first. Here is an old example from a British logician Richard Whately: "To allow every man an unbounded freedom of speech must always be, on the whole, advantageous to the State, for it is highly conducive to the interests of the community that each individual should enjoy a liberty perfectly unlimited of expressing his sentiments" (Copi & Cohen 1998, 186). What it says is: Allowing everyman freedom is good because each individual should be free. Still, it doesn't really say why freedom is good or desirable. This fallacy is often known as *Circular Reasoning* because… well, it goes in circles.

3. The Fallacies of Faulty Generalizations

Hasty Generalization. As noted earlier in the chapter on reasoning, one of the crucial requirements for good inductive generalization is a sufficient number of cases. When the requirement is violated, the conclusions are questionable. This is known as a fallacy of *Hasty Generalization*. It is committed when one draws a conclusion based on an insufficient number of cases. For example, the statement "I have been to that restaurant three times last year and I know the waiters there are rude" is fairly convincing, but logically rather weak. Of course even one unpleasant experience with a particular establishment could be a good reason for taking our business elsewhere, but that evidence is not strong enough to make a claim that all or most waiters in that restaurant are rude. The problem lies in the fact that the sample used for the conclusion is very small: three visits within one year are insufficient to make a generalization.

Sweeping Generalization. This is a generalization that disregards exceptions. A conclusion is extended to all cases regardless of their nature. For example, it is true that it is illegal to enter someone's house. Based on that generalization, anyone entering someone's house is committing a crime. However, we make exceptions for emergency situations, for police, fire fighters, and perhaps even entry in error. Although this fallacy seems to be obvious, it is actually more common than we think.

Unrepresentative Sample. Another fallacy common to inductive reasoning is Unrepresentative Sample. It is committed when a generalization is based on a sample that is not representative to the larger group of people, things, or events for which we make the generalization. For example, if one conducted a poll to determine popularity of two presidential candidates and used only a sample from, say, Utah, but then applied the results to the entire United States, the results would be questionable. The state of Utah is not representative of the entire United States, just as neither California nor Mississippi is. Although such mistakes usually would not happen with professional pollsters, our everyday generalizations are constantly made from small and unrepresentative samples.

4. The Fallacies of False Cause (*non causa pro causa*)

Coincidental Correlation (*post hoc, ergo propter hoc*). One commits this fallacy when he or she assumes that because one thing follows another, the latter is caused by the former. As noted earlier, daily reports on the changes in stock-exchange values are usually accompanied by such explanations. Just because something happened just before some ups or downs of the stocks, it does not always mean that that something actually caused the ups or downs. The relationship could be coincidental. The fact that most presidential candidates who won elections were taller than their opponents does not mean that the height caused winning elections. Just like that black cat crossing someone's path did not cause that person getting into an accident.

But not all *post hoc ergo propter hoc* fallacies are easy to decipher. Finding the problem in an argument can be complicated when a causal relationship was actually intended and expected. When New York City's Mayor Rudy Giuliani took credit for the drop in the city's crime rate, it was widely accepted that his policies actually caused the changes. The policies were intended to make a difference. When the crime rates began dropping, there seemed no other choice but to see it as a proof of a causal relationship. Yet, many criminologists and economists doubt that causal connection (Levitt and Dubner 2005). Similarly, the supporters of the Patriot Act claim that it was the new preventive measures that should be credited for no more terrorist attacks on American soil after September 11, 2001. Others see this as simply coincidental.

Joint Effect. Very often we find causal relationships between two phenomena or events when in fact both occur together because they are the effect of another underlying cause. For example, it is often said that children who take music lessons have better overall academic performance. The conclusion is that music lessons cause (or contribute to) better learning. Although there could be some truth in that conclusion, actually there is another reason why these children show better academic performance and that is not directly related to music lessons. There is a joint effect from another cause. Both effects (music lessons and academic performance) are the result of a common cause: much greater attention of parents or teachers. Parents who push their kids to take music lessons usually push them also to work more on academic subjects.

Similarly, a longer stay in a hospital does not necessarily contribute to a greater probability of dying there. It is the seriousness of an illness that causes both: the longer stay in a hospital and a greater probability of dying, just as lower grade scores in school cannot be automatically attributed to marijuana smoking. It could be that both are unrelated but are the result of another factor.

Wrong Direction. In this fallacy the relation between cause and effect is reversed. For example, some claim that the increasing number of sex education classes led to the increases in teen pregnancy. Although there could be some cases where sex education had that consequence, the actual causation is in the opposite direction. It was the increase in teen pregnancy and other related problems that led schools to introduce sex education classes. Just as hiring more police officers does not cause crime, it is the crime that leads to the new hires.

5. Either-Or Fallacy.

Known also as *false dilemma, black-or-white fallacy,* or *false alternatives*) this fallacy is committed when one argues that there is a set of alternatives (usually only two) from which one alternative must be selected, when in fact there are many other available options. Further, in such false choices, usually extreme positions are selected suggesting only one as viable or reasonable. This can be illustrated by such statements as: "America. Love it or Leave it!" Or a similar statement in the New Testament where Jesus says: "Whoever is not with me is against me. Whoever does not work with me is working against me" (Matthew 12:30). Such assertions don't leave any middle ground; they insist that we must choose between black and white. In some cases presenting only two (or three or four) alternatives could be an honest belief that those are the only available, but what usually happens is that an arguer simply ignores other alternatives forcing the audience to make a choice.

6. Slippery Slope (Domino Theory).

This fallacy assumes without any justification that a step in one direction will lead to (or cause) other steps. The name suggests a situation in which after taking one step on a slippery slope, other steps or a fall will be inevitable. The fallacy is not easily detectable because there is some truth to the belief that taking one step may lead to another. A person who tries soft drugs could be more likely to try different drugs while a person who rejects drugs at all will probably resist any drug. A person, who tastes the pleasures of travel, probably will look for more opportunities to travel again. However, the point is not so much whether there is some truth to it or not, but that if there is, that must be proven. For example, is there any independent evidence showing that marijuana is the so-called "gateway drug?" Or perhaps people who try marijuana were prone to try any drug that comes their way. Further, agreeing or permitting one step in certain direction does not automatically mean that we must agree or permit another.

Verbal Fallacies

Verbal fallacies, as the name suggests, are the fallacies that result from the use or misuse of language. The premises could be correct and the reasoning cogent, but all is communicated in poor and confusing language. Sometimes the fallacies in this group are referred to as fallacies of ambiguity. In our earlier discussion on the clarity of propositions, we emphasized the necessity of defining words clearly or at least assuring that the understanding of their meaning is the same to all involved in a debate. The same would apply to all aspects of language. Any ambiguity in language could lead to fallacious reasoning. One example is **Equivocation**, a situation in which, intentionally or unintentionally, the meaning of a word, phrase, or a key term is changed during the argument. That could lead to rather strange (and funny) conclusions: "Nothing is better than a good education. On the other hand, a ham sandwich is better than nothing. So it seems logical to conclude that a ham sandwich is better than a good education" (Herrick 1991, 179).

Another common error occurs when the ambiguity lies in the syntax of a sentence. That is known as **Amphiboly** and can be illustrated by another humorous example: Being in a poor condition, she was able to buy the furniture cheaply. Although we can guess that "poor condition" refers to the furniture, that is not clear from the way the sentence is written.

In the end, let's look at **Proof by Verbosity.** It happens sometimes that someone tries to overwhelm you and others by so much material, so many examples, and simply so many words, that the argument sounds very convincing and often goes unchallenged. However, the quantity of material, accompanied by excellent delivery and confidence, should never be a substitute for a solid argument and real evidence.

Key terms

Fallacy: a definition
Formal fallacies
Material fallacies
Verbal fallacies

The Fallacies of Irrelevant Conclusion
Ad Hominem
Ad Populum
Appeal to Inappropriate Authority
Appeal to Tradition
Genetic Fallacy
Red Herring
Begging the Question
Hasty Generalization
Sweeping Generalization
Unrepresentative Sample
The Fallacies of False Cause
Either-Or Fallacy
Slippery Slope (Domino Theory)
Equivocation
Proof by Verbosity

Study Questions

The first step in learning about fallacies is to understand the concept of a fallacy and then to study each of the fallacy. Thus, explaining each of the fallacies listed in the chapter should serve as study questions.

Exercises

1. For the last time examine exercises from chapters 4 and 5 (or, watch another political talk show). Are there any fallacies committed by the host of the program or other participants? Can you identify them? Which fallacy (or group of fallacies) is the most common?
2. Listen carefully to everyday conversations with friends, family members, or co-workers. Can you identify fallacies in their everyday arguments? Which fallacy (or group of fallacies) is the most common?
3. In a similar conversation (as above), commit a fallacy on purpose. See if people around you will detect the fallacy.

Argument Portfolio

This is the last entry in your portfolio. Probably while examining reasoning used in the arguments in your portfolio, you also noticed fallacies (if there were any). Take a look one more time at your previous evaluation. Pay special attention to fallacies. Identify them.

9

Style and Delivery

From the Ancient times, two schools of rhetoric competed for influence. Sicilian sophist Gorgias (485-375 BCE) represented a school that believed that the effect of a speech depends on the stylistic and oratory skills and not so much on the actual argument that is presented. Plato, representing the opposite view, was very critical of Gorgias' rhetoric, calling it a maker of conviction, verbal trickery, and sophistry. A one-time student of Gorgias, Isocrates tried to reconcile the importance of the content of an argument and the way that argument is delivered to audiences. He said that only the truth and ethical importance of the message can sway the audience, and that everything else, the style and delivery, is important but only as a supporting element (Korolko 1990: 173). Isocrates' views were echoed by Aristotle, who wrote that although "the case should be fought on the strength of the facts alone… it is not enough to know what to say—one must also know how to say it" (Cooper 1960: 182-183). And that is exactly the point of this chapter. The hours, maybe even the days of preparation, research, and putting together an argument could come to naught if a speech is poorly written and poorly delivered. The following is only a brief introduction to the elements of style and speaking: just enough to reiterate their importance.

Style

Your style should meet the following four requirements: (1) The language should be correct, (2) The language should be clear, (3) The language should be appropriate to the content of your speech, (4) The language should have impact (be vivid, imaginative). Let us examine each of the requirements.

(1) The language should be correct. Incorrect grammar makes a speech more difficult to understand and its impact is diminished. What's more, the speaker who uses language incorrectly and carelessly is perceived as less trustworthy and less knowledgeable. It is unfortunate that many don't pay much attention to this rather obvious dictum. There should be an extra care placed on making the speech clear grammatically. When the speech is prepared first in a manuscript form (or detailed outline), all the usual steps that you have learned in your English courses should be taken; for example, writing the first draft, sharing your draft with a classmate, a friend, asking for feedback, corrections, etc., revising your first draft for content and for grammatical errors, proofreading your final draft. For very important speeches you should consider sharing your final draft with a teacher, a friend with good language skills, or even a professional editor or speechwriter. This is of special importance for speakers who are not sure of their command of the language.

(2) The language should be clear. While taking care of the correctness of language, one usually deals with some of the issues of the clarity of the words. Yet one and the other are not the same. You may use correct grammar, but the vocabulary is cluttered with words that are too abstract, too complex, or, on the other hand, are slang. In both cases, it is very likely that they will be difficult to understand by your audience. Don't hesitate to make your vocabulary rich and sophisticated, but avoid words that are rarely heard by your average listener. And above all, avoid ambiguity. Each word should have meaning that is easily understood by the usage of the word. Of course it needs to be noted that what is simple and concrete to one person could be simplistic and uneducated to another. What may seem pretentious by some audiences can be artistic and educated for other audiences. It is not always easy to please your listeners. That is one more reason for careful audience analysis: its preferences, expectations, and knowledge.

(3) The language should be appropriate to the topic, the occasion, the audience, and the speaker. The topic will dictate the language, the vocabulary, and tone of the message. When you talk about serious matters, your language (and also your delivery) needs to be serious. When you talk about important issues, you must not sound dismissive and careless. When you describe a sad event, an illness, a death, a serious accident, you won't be humorous. In addition, the speaker must take into account the occasion and the audience (in most cases a consideration that probably is very much related to the topic). Finally, all of the other concerns still should permit you to show your own style. For one, there is always something unique and interesting about all speakers. Second, once you develop certain style, the audience will have certain expectations for your speech. A serious departure from your usual style may sound strange or even comical. That, in turn, could diminish the effectiveness of your speech.

(4) The language should have impact (be vivid, imaginative). But what can we say of a speech that is written with correct grammar, uses clear words and expressions, and whose delivery is appropriate to the message? If that was, for example, some company's annual sales report, the speech would certainly succeed. It would be very accurate, very informative, but also very dry and uninteresting. Putting aside these few exceptions, the language of the speech should be powerful, should contain such attributes as power, splendor, creativity, inventiveness, humor, grace, variety, and richness. That can be gained using metaphors, onomatopoeia, irony, metaphor, allegory, sarcasm, metonymy, and many other stylistic devices. Your English and literature classes and textbooks surely include a great deal of good advice in this area. In short, be adventurous. Pedantry and "rule-mongering" never made anyone a good writer or good speaker.

Delivery

And then there is the delivery. Even with all the modern technologies such as Power Point, CD-ROMs, video clips, and slide shows taking the role of a speech, it is still the actual personal presentation that counts. Presidents could, for example, replace their own State of the Union address with a flashy video full of pictures, graphs, and music. And yet, there is no chance that this will happen anytime soon. Legislators still want personal presentations from policy analysts, interested parties, and other politicians. Scientists, despite their familiarity with the most advanced communication technologies, continue to rely on personal contacts in matters of the greatest importance. In short, speech still counts. Not much has changed since Lord Chesterfield wrote this letter to his eight-year-old son in 1739:

> [A] man that has acquired an easy and habitual eloquence, who speaks properly and accurately, will have a great advantage over those who speak incorrectly or inelegantly… You must then, consequently, be sensible how advantageous it is for a man who speaks in public, whether it be in Parliament, or in the pulpit, or… in the courts of Law… to please his hearers (In Conley 1990, 212).

True, there are many cases of famous people who made their mark despite their inability to speak in public. Isocrates, who is considered one of the greatest teachers of speech, did not have much confidence in his own speaking. He wrote his speeches, but rarely delivered them. Another example is Thomas Jefferson. As his biographer Joseph J. Ellis writes: "[H]e lacked precisely those qualities that the members of Congress considered most essential. His most glaring deficiency was the talent most valued in Philadelphia: He could not speak in public" (1998, 42). He even "discontinued the practice of presenting his Annual Message [State of the Union] as a speech, claiming that a written version was more efficient" (1998, 227). These examples are not intended to show that one can succeed without good speaking skills. Of course, one can. They are here to show the opposite, the fact that both Isocrates and Jefferson worked hard to overcome that deficiency. They succeeded despite their shortcomings in speech delivery and only because of their genius elsewhere.

Delivery is a skill that needs a great deal of practice to master it. Throughout the ages one of the most compelling examples of the power of practice and exercise was that of the legendary Demosthenes, who fought his speech deficiencies to become one of the best speakers in the antiquity. Among other things, to improve the strength of his voice, he practiced on the beaches trying to be heard amid the noise of breaking waves and stormy winds. To strengthen the muscles of his jaw he practiced with small stones in his mouth. When one day you will venture to the drama department on your campus, you will be surprised how loud the practicing students are. Why the yelling? Why the shouts? To practice, to master the voice, to be able to speak softly, but also loud, to be able to express any and all emotions. True, most of you are not interested in becoming actors or actresses and you will never play in a drama, but you will present a speech or two in your life. Why not be prepared for it?

Communicating the meaning of the speech

To paraphrase Polish poet Juliusz Słowacki, sometimes your voice should be like lightning, quick and thundering, sometimes sad like a melancholy song, and sometimes beautiful like angels' voice (2005). In less poetic words, your speech should use vocal qualities appropriate to the subject and occasion of the presentation. To be able to take advantage of your natural voice abilities, you must make sure that you know and understand the meaning of the message. The question is what kind of mood you want to convey? Is your speech a funeral oratory? Is it a fiery revolutionary speech calling for overthrowing a government? Is it a somber report of the dire financial situation of a corporation? Is it a highly technical paper presented at a scientific conference? Are you trying to express joy, adoration, awe, fear, pride, or anger? This may refer to the entire speech or parts of the speech. Even funeral oratory may include moments of humor and joy, not only reverence and sadness. Each speech, each part or moment of the speech will require different presentation. Many of the differences will be accounted for by the words you use (the subject we have covered earlier). Many others will be based on the usage of your voice, the loudness, rate, pitch, the use of pauses, and much more.

The quality of your speaking

Communicating meaning often comes naturally without any special planning. In most cases you are presenting your own speech, you know what you want to convey, you know how to do it. Just as, unmistakably, we can detect the meaning from your everyday conversations. You speak differently when you are angry and differently when you are full of joy. The point is to remember to apply something that seems so obvious in a private conversation to a public speaking situation. Your voice is a tool that you need to master. Just as you know which button to push on your camera to get the best picture, or which one on your radio or recorder to get the best music, you should know how to use your voice.

Loudness refers to the volume, the audibility, of your speaking. It is obvious that you need to speak louder in a large room and much softer in a small classroom or café. But such adjustment is just one side of the matter. What is much more important is the variation in the volume of your speech. As with other characteristics of your voice, that will be used to emphasize the most significant parts of your speech.

Pitch refers to the highness or lowness of your voice. Obviously, we all differ in the level of pitch. The clearest differences are between the sexes; generally women's pitch is higher and men's pitch is lower. And then there are variations within each of these groups. The point here is not to change the natural pitch we have (though some, especially in acting profession, often attempt to do it), but to vary the pitch within the ranges available to us. Such variations are known as inflections. Your pitch could be rising as in asking a question, or showing surprise or joy. Or, it could be falling when indicating tension, sadness, and resignation. It could also indicate uncertainty, insecurity, and hesitation.

Rate is the speed of your speech. With some unusual exceptions of extremely slow and extremely rapid speaking, most speakers will have their own normal rate. Some speak faster, some slower, but that should not distract anyone from understanding the speech. The main point to remember and perhaps ask ourselves is whether the way we speak affects the clarity of articulation. Can the audience understand us? Can the listeners distinguish the sounds we utter?

As with pitch and loudness, what is probably much more important is the variation of the rate we use. Speaking slower at times and faster other times will emphasize important phrases, bring desired feeling and emotion to the speech. The same can be accomplished by varying the duration of speech (extending or shortening individual speech sounds) and by using timed pauses. Pauses are a powerful tool in emphasizing words and phrases, in creating a suspense and curiosity. Of course there are also the unwanted pauses. Hesitation is a break in a phrase caused by insufficient focusing of attention. Frequently it is vocalized with an irritating *ah*, *er*, or *uh*.

Vocal variations. As emphasized repeatedly, the main point is to understand the power of vocal variations. One of the most annoying things in public speaking is a monotone. It is not only that speaking in a monotone prevents you from conveying all the wonderful and important ideas you have been working on while preparing your speech, but that it makes the speaker look like an incompetent bore. Vocal variety, the variations in loudness, pitch, rate, duration, and pauses, all should be devoted to emphasize the crucial parts of the speech, the words and phrases that carry the essential meaning.

Articulation and Pronunciation. The two refer to different areas of speaking, but both are about standard ways of presenting words. Articulation refers to clear enunciation of words. The sounds should be distinct and accurate. The voice should not be slurred, sloppy, mumbled, and overall unintelligible. If you are not sure about the quality of your own speaking, ask friends or relatives, or perhaps you could see it for yourself when listening to a recording of your own speech. Pronunciation refers to "the accepted standard of sound and rhythm for words in a given language" (Lucas 2004, 304). Each word is built of individual sounds (i.e., vowels, consonants, syllables) that can be pronounced in a variety of ways, but usually only one way is accepted as the standard one. For native speakers of a language (in our case English) this is not a real problem; the standard pronunciation comes naturally. For others this could be a difficult task. Further, even for the native speakers, unusual words, technical terms, names, etc. could also create problems. In all cases, speakers should try to identify words that give them trouble, learn the proper pronunciation, and then practice it before the speech.

Body Language. Under the general heading of 'Body language' we include several important areas of delivery. Here are just a few. One is appearance. In classroom situations this is not a major concern. As long as the way you dress is not distracting to the audience, it will be acceptable. Of course there is always that question: so, what exactly is distracting? You should decide that question by using the audience's standards, not yours. Generally speaking, you should dress more conservatively than the audience. Avoid things that are unusual (even if fashionable and high quality), things that are too sexy, things that are too leisurely (e.g., shorts), and clothing with advertisement or political statements. The standards will be certainly much more stringent in other situations such as court appearances, job interviews, political speeches, commencements, etc. Always try to determine before the speech what is the expectation regarding your appearance.

Another important area refers to the **posture** and **body movement**. Your posture should be relaxed but also dignified and erect, you should not lean on the lectern, you should not stoop. Further, avoid shifting from one leg to another. Although moving away from the podium could be a good thing (creates a greater contact with the audience), the movements should not be distracting. If you think that there is a problem, standing behind the podium would be preferable.

Finally, and probably the most important one, is **eye contact**. Simply said, eye contact is a must. It gives you the opportunity to connect with the audience, to establish goodwill, even liking. Avoiding eye contact could be a sign of distrust and disrespect. In addition, looking at the audience permits you to see its reactions (the feedback) and respond to them.

Types of delivery

One of the most common questions regarding delivery is: Should I read from a manuscript, from notes, from an outline, or perhaps I need to memorize my speech? The answer will depend on a variety of factors. However, there is also one general rule that you should remember. Regardless of the method of delivering a speech, the presentation should meet all the requirements of good delivery as described earlier: the speaker must speak to the audience, maintain eye contact, use vocal variety, etc. Of course, some methods of delivering a speech are more conducive to an exciting speech than others. Reading from a manuscript, unfortunately, tend to be somewhat less exciting, often leads to monotonous and outright boring delivery. Extemporaneous speaking, on the other hand, is almost always livelier and conversational, but tend to sound less structured and even disorganized. Again, there is no reason that either of them must be that way. In any case, whatever the method, the speaker needs to practice as much as necessary to make a speech organized, interesting, and fairly conversational. Here are the most common methods of delivering a speech.

Manuscript Speeches. In this method, the speaker reads the entire speech verbatim, word for word, from a prepared manuscript. Sometimes choosing this method is simply a matter of personal preference; sometimes it is the requirement of the situation. Most formal and important speeches will be read from a manuscript. The exact wording in such cases is very important. Although the speaker is free to either add or skip a line or two, in majority of cases that never happens. The wording has been carefully prepared and changing it would defy the entire reason for a manuscript speech. There are many manuscript speeches that are basically a read version of a written report. They are certainly very difficult to read and they are the ones that often give a bad name to manuscript speeches. However, a manuscript speech can be carefully prepared with speaking in mind. That will require "reading through" while writing a speech. In other words, it will require testing each sentence and section for its sound value. Further, manuscript speeches require as much practice as any other speech, in some cases even more. Unfortunately, many speakers don't practice enough because they feel a false sense of security of having the entire speech written down.

Extemporaneous Speeches. Extemporaneous speaking combines the best elements of manuscript speeches and impromptu spontaneous presentations. Unlike impromptu speaking, extemporaneous speech is carefully prepared and rehearsed. Unlike the manuscript speech, it does not adhere to the exact wording of the manuscript, it is more spontaneous and can adapt to the audience and the situation as it progresses. In short, it is a speech that is carefully organized, well researched and supported, filled with all the required arguments and evidence, but, at the same time, its delivery looks more like a talk, a conversation, and not a formal speech. It permits the speaker to have a close contact with the audiences, to have a conversation with them.

Memorized Speeches. This type of speeches is usually limited to performance speeches, theater, and poetry recitals. Very short speeches in private situations, wedding toasts, introductions, perhaps even short eulogies, are often memorized, too. Generally, memorization is not necessary unless (1) the exact wording of the speech is a must and (2) the presentation cannot be delivered from a manuscript. Memorized speeches are not recommended (except the above cases) because they are actually very difficult to master. One must realize that they are not just about memorizing the text, but also performing it. And that requires a great deal of skill and practice.

Introductions and Conclusions

When one is preoccupied with making the argument strong, it is easy to forget the significance of introductions and conclusions. It is clear that one purpose of the introductions is to introduce the topic and another to lead into the actual argument. That is usually done fairly well. However, a greater attention must be brought to two other purposes: **establishing a good will** and **capturing audience's attention.**

Establishing Good Will

The ancient Romans called this task "captatio benevolentiae." Without knowing the Latin, one can easily understand that it meant capturing benevolence, well-wishing, friendliness. The Romans realized that the audience's favorable disposition toward the speaker depends mostly on the general intellectual and moral qualities of the speaker. But they also knew that a proper introduction can reinforce these qualities and, in cases in which the speaker is not well known, a good introduction can create a positive first impression.

Although public speaking textbooks talk about "methods" in establishing goodwill, these methods most often are a natural outcome of normal social interactions. We greet people, pay compliments, and give them respect before engaging in more concrete business of the conversation. You can hear occasionally: "Let's skip all these pleasantries and get to business," but the pleasantries, the etiquette, the bon ton, the savoir vivre, are there for a reason. One "method" is to show respect for the audience. Whether you like the listeners or not, whether they came voluntarily or must be there, they deserve to be treated politely. Sometimes you go a step further and pay them a compliment for being knowledgeable, for taking time to come and listen to you, for being interested in the subject of your speech, for being concerned about the problems you are trying to solve. And sometimes you will show humility and pride in speaking before so honorable an audience.

All this is even more important when your audience is in opposition to your views or, perhaps, even outright hostile to you and your ideas. You need to show the listeners that although you are standing the opposite of their convictions, both of you are concerned with the subject matter, with the problem that needs to be resolved. You differ in solutions, but you share with the audience the purpose. Establishing good will means that your audience will say (or think): "We don't agree with your position, we don't like your argument and it is unlikely we will ever agree with it, but we are here to listen to you, to give you a chance to tell us what you think." The audience may even say: "Hey, we don't care for your arguments, but we like you, you are a good person." Take for example Patrick Henry's "Liberty or Death" speech:

> Mr. President: No man thinks more highly than I do of the patriotism, as well as abilities, of the very worthy gentlemen who have just addressed

> the House. But different men often see the same subjects in different lights; and, therefore, I hope that it will not be thought disrespectful to those gentlemen, if, entertaining as I do, opinions of a character very opposite to theirs, I shall speak forth my sentiments freely and without reserve (Capp 1963, 20)

In short, good will means establishing an atmosphere of mutual respect, creating bond between the speaker and the audience, a rapport, common understanding, a tie, a good relationship.

Attention getters

Now, when the audience is positively disposed toward the speaker, another task that is awaiting him or her is to capture the audience's attention. The list of possible attention getters is long. Here are a few examples.

Referring to the occasion, the speech, the place, or a previous speaker. These methods often combine establishing good will and capturing attention to the topic and its importance. They are probably the most simple, but also very tactful and respectful methods. Here is how President Wilson began his speech in support of the League of Nations: "Mr. Chairman and Fellow Countrymen: You make my heart very warm with your generous welcome, and I want to express my unaffected gratitude to your chairman for having so truly struck the note of an occasion like this… The world is inflamed and profoundly disturbed, and we are met to discuss the measures by which its spirit can be quieted and its affairs turned to the right courses of human life" (Capp 1963, 173). Or, in much simpler manner, how philosopher Karl Popper began one of his lectures to the Alpbach Forum: "As an old member of this organization I was pleased to be invited to its thirtieth birthday celebrations" (1994, 52).

Beginning with a strong statement that can startle, move, unsettle, or even disturb the audience. Karl Marx and Friedrich Engels began their *Communist Manifesto* this way: "A spectre is haunting Europe — the spectre of communism. All the powers of old Europe have entered into a holy alliance to exorcise this spectre: Pope and Tsar, Metternich and Guizot, French Radicals and German police-spies." Or, consider this: "There are approximately two million people in jail in America today, 2,166,260 at last count: more than four times as many people as thirty years ago. It is the largest number in our history. More than 500 in every

100,000 Americans are behind bars, between four and ten times the incarceration rate of any civilized country in the world" (Bruner 2003, 44).

Asking a question. The question can be either dialectical or rhetorical. The first intends to engage the listeners in thinking about possible answers and often realize how difficult they are. "What is justice?" you ask, for example. The other intends to show how obvious and natural the answer is. It wants to secure the audience's agreement. "Had you rather Caesar were living and all die slaves [or] that Caesar were dead, to live all free men?" asks Brutus in justifying the assassination of Caesar. In that case it is not at all certain that Caesar's assassination meant freedom, but if it did, the answer is only one, the one intended by Brutus.

Challenging existing beliefs. This method must be used with caution. Challenging one's beliefs is important; often it is the first step to changing them. However, the speaker must consider how important the beliefs are for a particular audience and how open the audience is to your challenges. Sometimes the line between capturing listeners' attention and antagonizing them is very thin. Consider this challenging and provocative quote from General Patton: "I want you to remember that no bastard ever won a war by dying for his country. He won it by making the other poor dumb bastard die for his country."

Using an analogy. Take a look at this beautiful analogy made by Daniel Webster: "Mr. President: When the mariner has been tossed for many days in thick weather, and on an unknown sea, he naturally avails himself of the first pause in the storm, the earliest glance of the sun, to take his latitude, and ascertain how far the elements have driven him from his true course. Let us imitate this prudence, and, before we float farther on the waves of this debate, refer to the point from which we departed, that we may at least be able to conjecture where we now are" (Capp 1963, 48)

Quotations. Great thoughts, one-liners, and all kinds of other quotations can be a wonderful source for an attention getter. Thus, instead of beginning a speech with a boring: "Explaining the value of art is very difficult," one could use the following quote from French painter Georges Braque: "There is only one valuable thing in art: the thing you cannot explain." Or, when speaking on dogmatism, one could use this quotation: "When someone is honestly 55% right, that's very good and there's no use wrangling. And if someone is 60% right, it's wonderful, it's great luck, and let him thank God. But what's to be said about 75% right? Wise people say this is suspicious. Well, and what about 100% right?

Whoever says he's 100% right is a fanatic, a thug, and the worst kind of rascal" (Miłosz 1990, v). There are many excellent compilations of good quotations and you should own one, too.

Conclusions

Conclusion is no less important than introduction. First, a conclusion should reinforce the good will that was established in the introduction. As Aristotle said, "you must render the audience well-disposed to you." Second, a conclusion should reemphasize these parts of the argument that were the most important to make the case. Finally, using Aristotle's words one more time, "you must put the audience into the right state of emotion" (Cooper 1960, 240).

Visuals

To understand the importance of presentational aids, we need to recall the point that each speech has a purpose. Whether the purpose is to persuade, inform, or evoke emotions, all elements of our presentation are geared toward that goal. The language we use will remain the most powerful tool at our disposal, but from time to time the words will have to be complemented or replaced by visual or audio material. This will depend on the subject we are discussing, the audience, often on the need to be quick and efficient in our presentations. Sometimes it will be our own inability to explain things "in our own words." When thinking about visuals you must ask yourself the following questions:

How could I enhance the presentation?
Could I make my message clearer?
Could I persuade the audience with some additional material?

In most cases, visuals will enhance your speech and most teachers require that you use them in class. Thus, the question will be not so much if you should use visuals, but what visuals and how. This is not a trivial matter because you should not use visuals indiscriminately. **First,** you should not turn your speech into a movie or a picture show because, after all, what you want to prepare is a speech, not a visual extravaganza. **Second,** visuals should be used only for concepts and points that really need to be illustrated. The visuals are not presented for the sake of visuals or to show that you are able to prepare a visual. Visuals are servants to a higher purpose, to help you to make a point, to make your speech clear and understandable, to persuade listeners.

Types of Visuals

Objects, People, Models, Pictures, Drawings, Maps. The actual objects or people that are being described can serve as visuals. However, such objects, things, or persons are not always the best choice. Either they are not available, are too small, too big, sometimes difficult to handle, or could draw too much attention to themselves and away from your speech. Often it is much better to have a model, a picture or a drawing of the original than the actual thing or a person. Models and drawings can be prepared the way that will emphasize how things work, what are the most important elements or parts (these parts can be shown in different colors, can be enlarged, etc.)

Charts, Diagrams, Graphs. They are especially important in illustrating numbers, statistics, correlations or causal relationships, or abstract concepts. For example, when comparing market share of major car manufacturers in the United States, one would use a pie graph. Seeing on the screen a large circle divided into four or five parts representing the percentage of market share would be much more effective than just hearing the numbers. A line graph could be useful in showing changes over time or a relationship between two phenomena. In many cases such graphs can be more persuasive than the entire argument.

The Methods of Presenting Visuals

"Black" Boards. They are very valuable for ad hoc visuals and for developing ideas with the audience, something that cannot be prepared in advance in its entirety. However, in most other situations they can create more problems than help. First, it takes time to write or draw on the board. Second, most people are not that good in that task and the drawings could look messy, unclear, and overall unprofessional. Thus, use black boards sparingly. If you must, practice your drawings, writing, and explanations before speech.

Poster boards, overhead transparencies, and computer generated presentations. Any picture, diagram, map, text, or graph can be placed on a poster board, overhead transparencies, or projected from a computer on a large screen or monitor. The basics are the same for all three. When prepared properly, poster boards are probably the most effective and elegant visuals. They do not require any additional equipment or room arrangements. Further, they communicate great care taken in preparing a speech. On the other hand, computer generated presentations have much greater potential. They can be prepared quickly and are inexpensive. To place a large reproduction of an artwork on a poster board can be expensive. To project the same reproduction through the computer is simple and does not cost anything. A great deal of material can be found on the Internet and moved easily from a web page to the slide show. If not on the Internet, pictures can be scanned to the computer and graphs can be easily made using a variety of readily available programs. All can be easily organized, moved around, and enlarged. Colors, different fonts, and variety of designs can be added and changed. And all can be easily stored on a flash drive or an old fashioned CD.

The main disadvantage of computer assisted visuals is that not all places in which one will speak have the equipment necessary to play the slide show. And even if the equipment is there, it may not work, or may not recognize the disk or program used by the speaker. In all cases, you should make sure before the speech that the equipment is available and in working condition.

Handouts. Handouts are less effective mainly because the speaker has much less control over them than other types of visuals. First, since distributing separate short handouts for each point would be too disruptive, most handouts cover several items in a packet. Normal curiosity makes the audience to look through the packet without paying attention to the one visual being used by the speaker at a particular moment. Second, even when there is only one item distributed to the audience, sometimes it is difficult to refer to the specific parts of it. Almost everyone experienced a situation when one or two persons in the audience "got lost" and could not find a particular item on a handout. That usually does not create any problem in small group speeches, workshops, or class lectures and discussions, but could be disruptive in a formal speech. If handouts must be used, they need to be very well designed and marked.

Places on a map, parts of a picture, or specific items on a graph that will be explained in a speech must be marked the way that can be easily identified by the audience (e.g., numbered).

Handouts can be also very helpful when distributed after the speech. They could include the most important points of the speech, additional information, bibliography and other sources that the audience could refer to, useful telephone numbers and web sites.

The Principles of Preparing and Showing Visuals

1. The visuals should be large enough and placed in a way as to be seen by all members of the audience.
2. The visuals should be simple and clear to illustrate a point. When preparing a visual, special care should be taken to make sure that the item actually helps in understanding a particular concept or argument.
3. The visuals should be explained one item at the time—the one that is helping to make our point clear. Do not expose all your visuals at the same time. Whether you use poster boards, overhand transparencies, or computer generated slides, only one idea should be shown at the time. One of the most annoying visuals is a poster board filled with five, six, or more of various little graphs or pictures that are not only too small to see, but it is not clear which one is being used at a particular time. What is sad is that the speaker actually has spent a great deal of time preparing it.
4. Do not pass things around. First, this can be disruptive. Second, it is usually very ineffective because only a few persons can see the object while you are explaining it.
5. Practice!

Key terms

Style
Correct language
Clear language
Appropriate language

Delivery
The quality of speaking
Loudness
Pitch
Rate
Vocal variations
Articulation and Pronunciation
Body Language
Types of delivery
Manuscript Speeches
Extemporaneous Speeches
Memorized Speeches
Introductions and Conclusions
Establishing Good Will
Attention getters

Exercises

1. An excellent way to improve your speaking skills is to practice by pretending to be an actor, a broadcaster, a politician, etc. For example, choose a famous speech and deliver it the way it was delivered by the original speaker. Or, try to deliver it differently.
2. Practice!

Appendix: Organization / Outlining

Organizational pattern of an argument is simply an outgrowth of the thesis, the main proposition that is going to be argued. If the proposition is of fact or value, the most likely organization will be listing reasons why that proposition is true. That design is known often as categorical (topical) because it divides the supporting reasons into the most important categories. For example, when arguing that smoking is harmful to one's health, the harmful effects will be grouped in several different categories, each describing effects on a particular part of organism, e.g., lungs, heart, etc. If the proposition is advocative—policy—the organization is most likely to be Problem-Solution. That suggests dividing the argument into two major components. In the first main point, the speaker argues that there is a problem that needs to be addressed (solved). In the second main point, the solution is presented. Although in many cases the problem is well known and even obvious, the principle here is that one cannot begin arguing solutions before establishing that there is a need to look for solutions.

Of course, extended arguments often include several types of organization within the individual points. For example, although the basic design for policy argument is Problem-Solution, these two main points must include arguments why there is a problem and then why the solution is appropriate, etc. Thus, the first main point (The Problem) will be further organized according to categorical design when all the reasons for why one believes there is a problem will be listed. The same will apply to the second point.

It should be emphasized that although throughout this text we try to present all kinds of techniques that can help in preparing a convincing argument, there is no magic formula that can be applied uniformly to every argument. Argument preparation is a creative process. One author describes it as follows (quoted with modifications from Bean 1996, 30-31):

1. **Starting point: perception of a problem, an issue.** You feel an uncertainty, doubt a theory, note a piece of unexplained data,

puzzle over an observation, confront a view that seems mistaken, or otherwise articulate a question or problem.

2. **Exploration.** You gather data through library and through probing of memory; analyze, compare, puzzle, talk with others; you explore ideas by rapid drafting or tentative outlines.
3. **Incubation.** You take time off from the problem, do other things, and let ideas cook in the subconscious. These first three stages are all recursive—as you alternate between exploration and incubation, your perception of the problem may change.
4. **Writing the first draft.** You get ideas down on paper in preliminary form. Some writers make an informal outline prior to writing; others discover direction as they write, often pursuing different branches of ideas without worrying about coherence.
5. **Reformulation or revision.** Having gone once through the territory, you take another look at the problem and think it through again. Many writers report dismantling their first drafts and starting afresh… At this point, writers often make new outlines. They begin considering audience; they clarify their rhetorical purpose… Several drafts are often necessary…
6. **Editing.** At this point, craftsmanship takes over from initial creativity. Writers worry about unity, coherence, and sentence structure… Often, the recursive nature of the process is again felt as you discover new meanings and new intentions that require rethinking the speech.

Outlining

Outlining is an essential tool used in planning, structuring, and delivering a speech. Most of us use at least some form of outlining and learning that tool is of great importance. Generally, we divide outlines into: (a) **preliminary (working) outlines**, (b) **formal (full content) outlines**, and (c) **presentation outlines**.

Preliminary (working) outlines are used in the planning stages of speech preparation and usually go through many rewrites until a satisfactory structure of the speech will be developed. They are being used not only in preparation of the actual speech but also in developing a topic, narrowing it down, and in developing a thesis statement. For example a student may decide to present a speech on some aspects of the legal system in the United States. Naturally, the subject is so vast that one could not possibly talk about everything (even in an abbreviated form) unless that person plans a thick volume of several hundred pages. Thus, jotting some ideas on paper, seeing them in relation to other ideas, could be a start. That procedure is known sometimes as mapping and clustering.

Formal full content outlines are the final and refined version of the working outline expanded to include all important material that is usually not necessary in the planning stages. The formal outline is, in other words, a detailed representation of the actual speech. Although it is still only an outline and not the entire speech, for all practical purposes, reading that outline should be sufficient to understand the speech in most of its details.

A formal outline could also serve as **the presentation outline**. However, it is advisable for a speaker to rework the formal outline to his or her personal preferences. Generally speaking, presentation outlines are simplified versions of the formal outline. That is necessary to avoid reading word for word from an outline (unless that is the desired method of delivering the speech). Thus, speaking outlines often include only key words and phrases, but not full sentences. At the same time, the speaking outline may include additional notes that will help in the actual speaking situation. For example, a presentation outline may include cues at which point the speaker should introduce visuals.

Both, your working outline and the speaking outline are very personal tools in preparing and delivering your speech. It is very likely that nobody but you will ever see one of them. The formal outline, however, is a written representation of your speech and, in most circumstances it will be graded by your instructor and perhaps shared with other students. In outside classroom situations, it could become a part of a formal report. Thus, special care must be taken to prepare your formal outline.

Any outline, whether the final draft of working outline, a formal outline, or the speaking outline, should coordinate all points in a logical way. This is usually accomplished while planning speech organization (please, see previous chapter). For instance one of the more obvious requirements is that the points are balanced properly. Further, there must be a consistency in the arrangements. This applies to the way all points and subpoints are written (for example, if declarative sentences are used for one point, they should be used for the remaining points as well) and to the format of the outline: you must use a consistent set of symbols and indentations to show logical connection between main points, subpoints, etc.

Finally, a complete formal outline should include all relevant material (ask your teacher for specific requirements), for example the title of the speech, the thesis statement (sometimes also the specific purpose), all the main elements of the introduction, transitions, etc. Below you will find an outline worksheet that may be helpful in your own work on a speech.

An outline worksheet

Title: ____

Thesis statement: ______________________________

Introduction

Material to capture audience's attention: ______________________

Material to establish a good will: ___________________________

Introducing the topic (the thesis): ___________________________

Body

(The number of points, subpoints, etc. may vary depending on the topic, organization, etc.)

I. (Main point: PROBLEM):______________________________

A. (subpoint): ____________________________________

1. (Sub-subpoint): ___________________________
    a. ___________________________
    b. ___________________________

2. (Sub-subpoint): ___________________________

B. (subpoint): ________________________________

1. (Sub-subpoint): ______________________
2. (Sub-subpoint): ______________________
3. (Sub-subpoint): ______________________

(Transition to the next main point)

II. (Main point: SOLUTION): _________________________

A. (subpoint): _______________________________

1. (Sub-subpoint): ______________________
2. (Sub-subpoint): ______________________
3. (Sub-subpoint): ______________________
    a. ______________________
    b.______________________

B. (subpoint): _______________________________

1. (Sub-subpoint): ______________________
2. (Sub-subpoint): ______________________

Conclusion

Summary to reinforce the thesis of your speech: _____________
Material to end the speech in a memorable way: _____________

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